



AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry

2021 Annual Report Patient Presentation for Surgeons

HIP REPLACEMENT



AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry

Hip Replacement

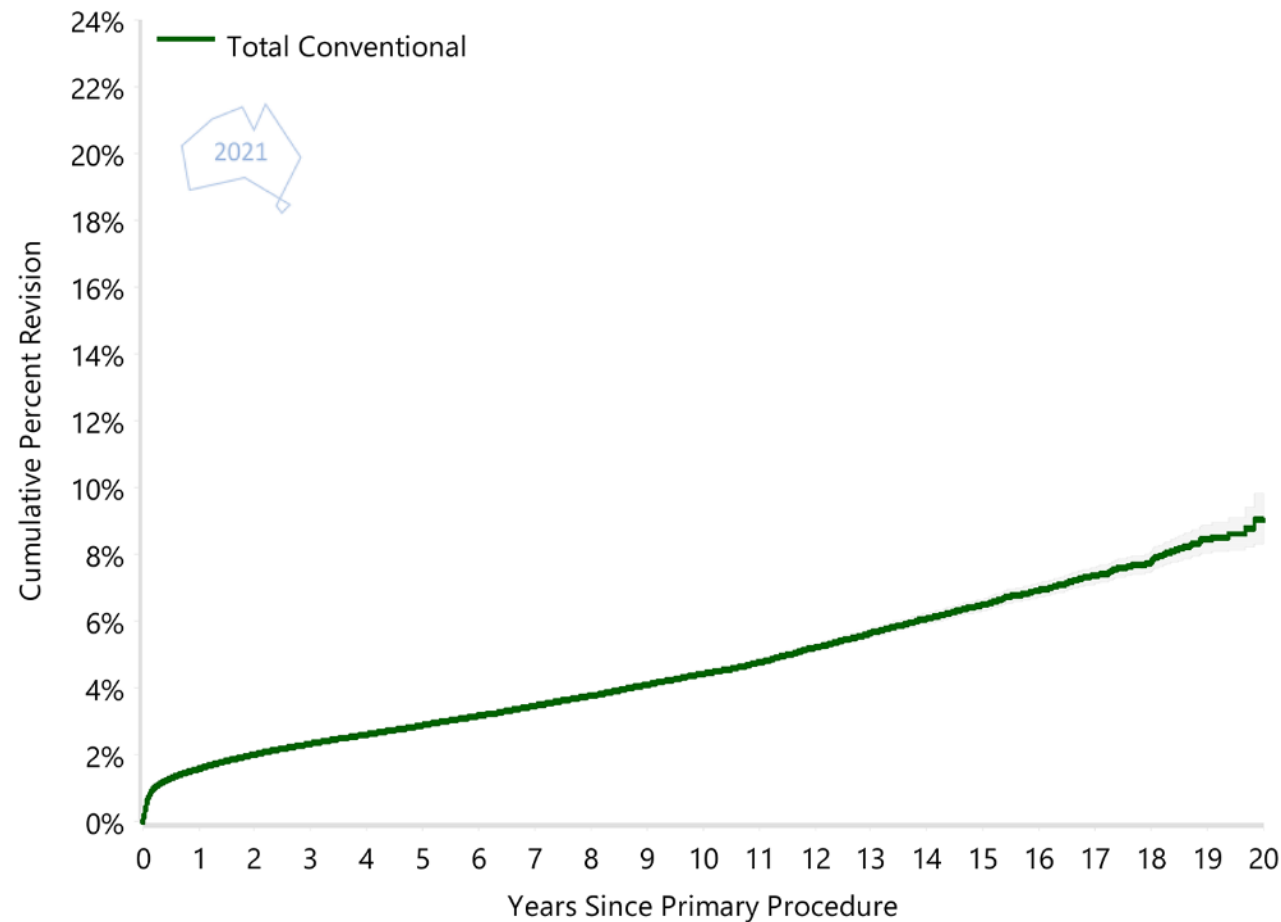




AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry

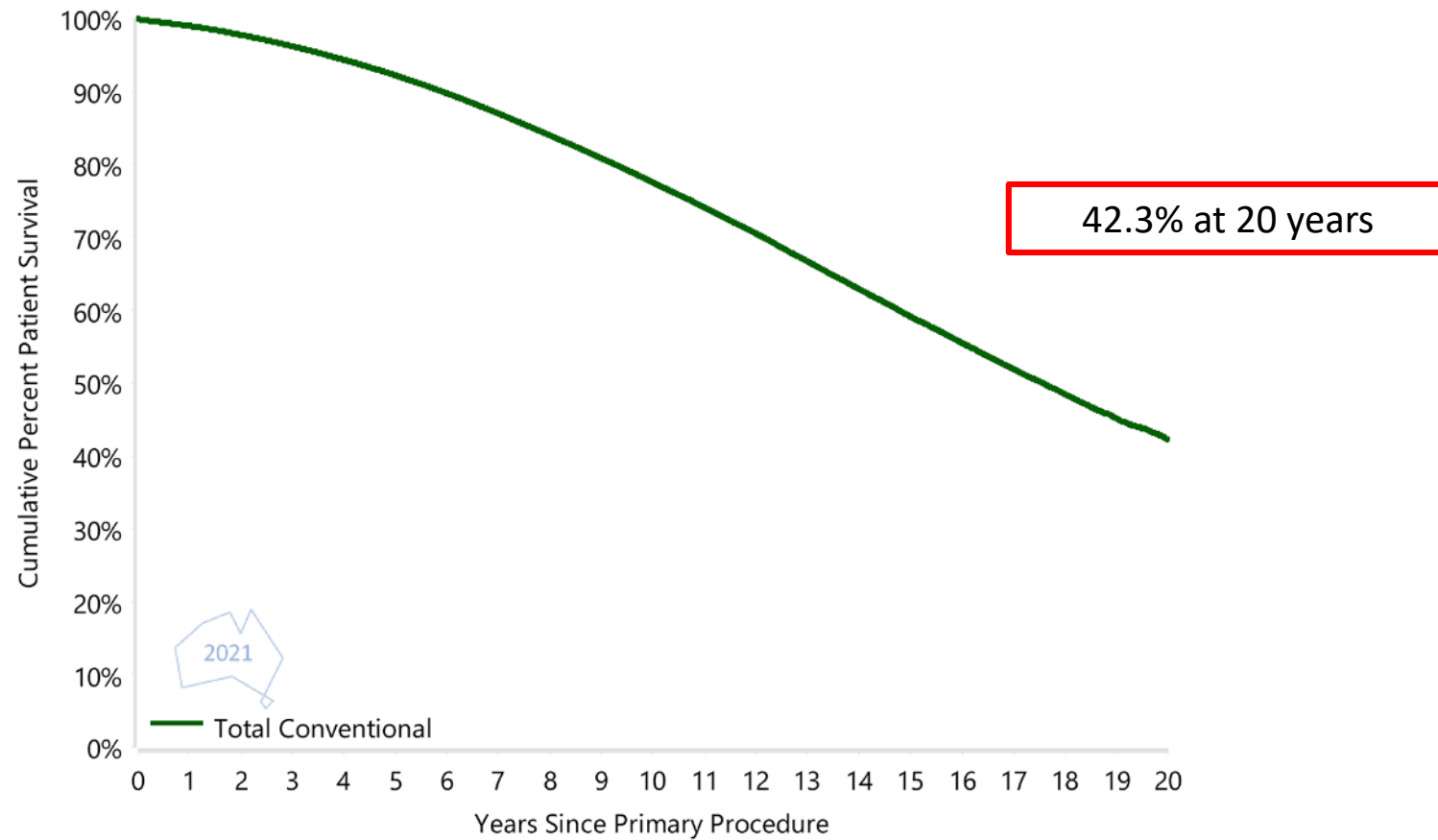
Figure HT5 Cumulative Percent Revision of Primary Total Conventional Hip Replacement (Primary Diagnosis OA)



9.0% at 20 years

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Figure M5 Cumulative Percent Survival of Patients with Primary Total Conventional Hip Replacement by Class (Primary Diagnosis OA)

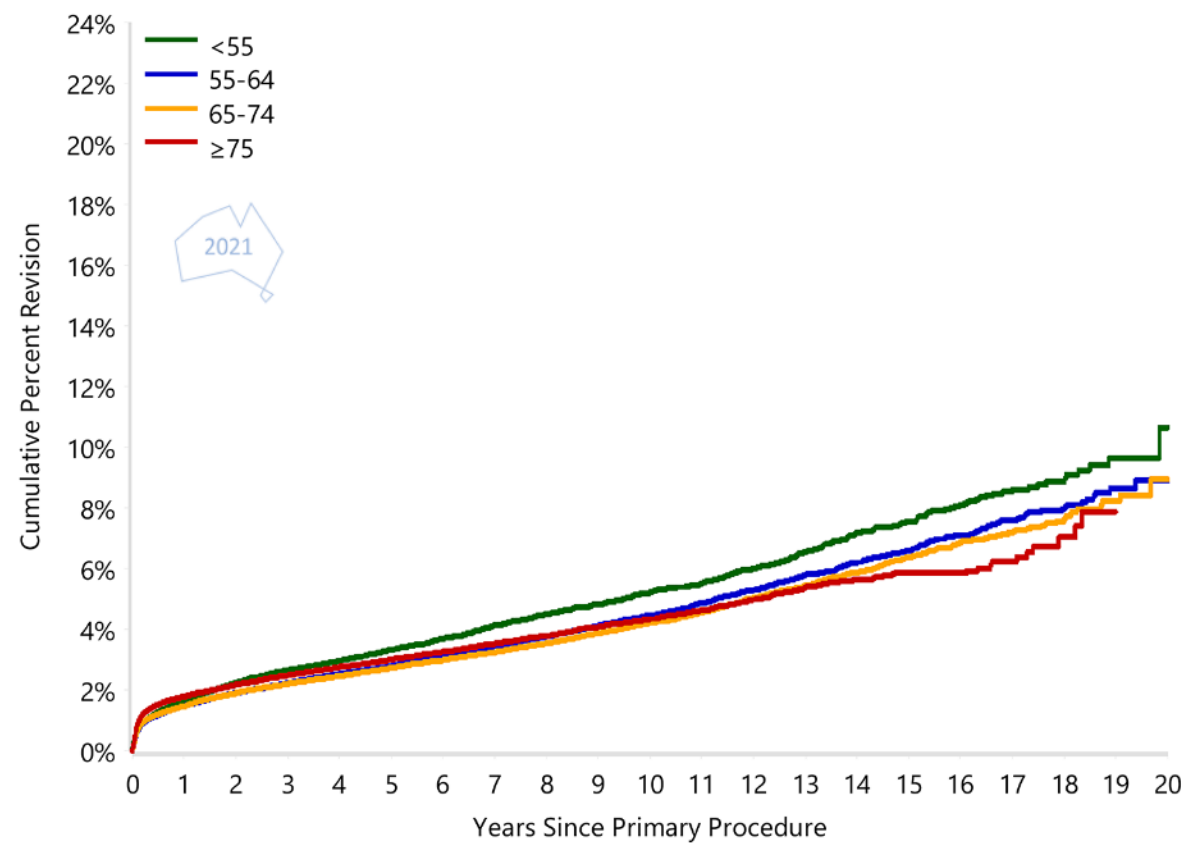




AOANJRR

Australian Orthopaedic Association National Joint Replacement Registry

Figure HT7 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Age (Primary Diagnosis OA)



HR - adjusted for gender

<55 vs ≥75

- 0 - 2Wk: HR=1.05 (0.86, 1.28),p=0.628
- 2Wk - 3Mth: HR=0.69 (0.61, 0.79),p<0.001
- 3Mth+: HR=1.34 (1.25, 1.44),p<0.001

55-64 vs ≥75

- 0 - 2Wk: HR=0.84 (0.71, 0.98),p=0.030
- 2Wk - 1Mth: HR=0.62 (0.54, 0.72),p<0.001
- 1Mth - 6Mth: HR=0.84 (0.76, 0.93),p=0.001
- 6Mth+: HR=1.14 (1.07, 1.21),p<0.001

65-74 vs ≥75

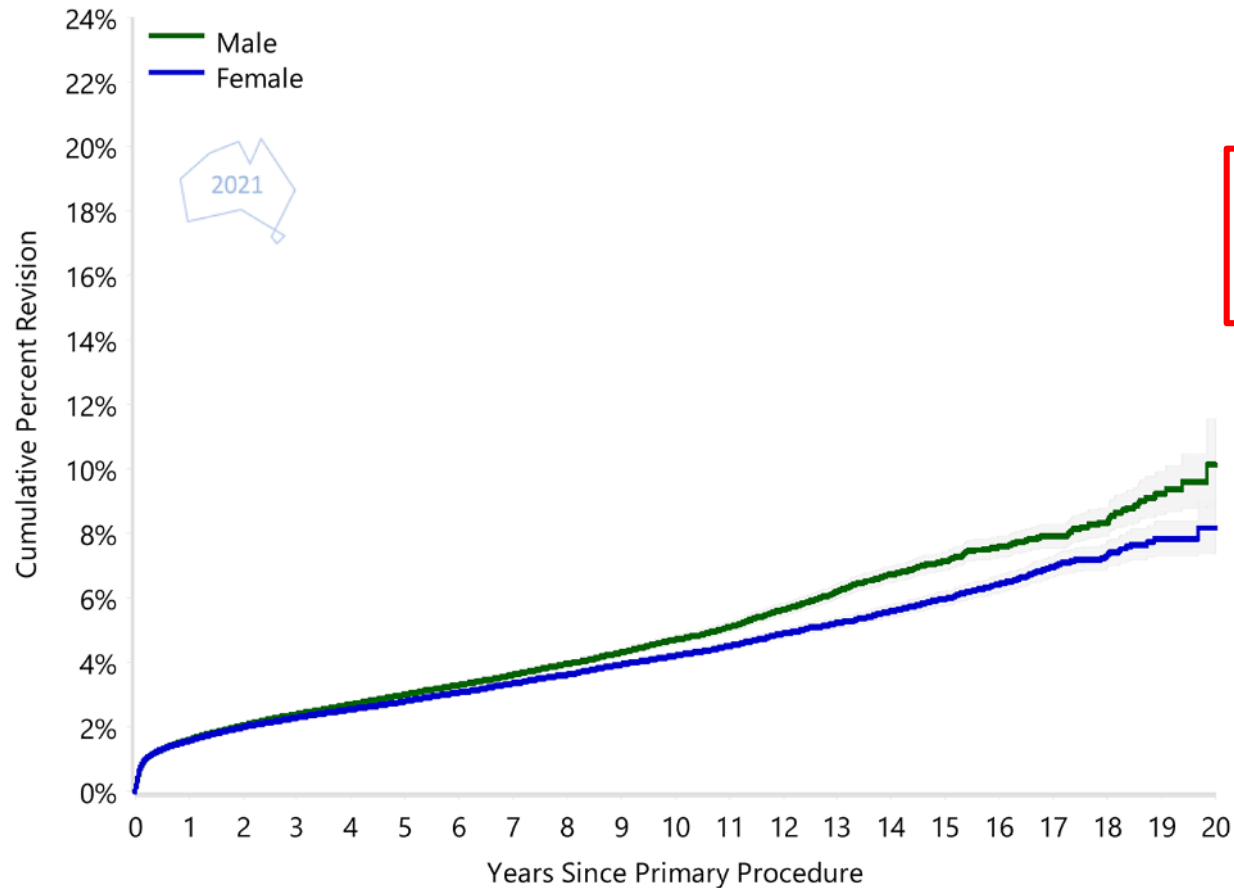
- 0 - 1Mth: HR=0.75 (0.68, 0.82),p<0.001
- 1Mth - 9Mth: HR=0.86 (0.79, 0.93),p<0.001
- 9Mth - 1.5Yr: HR=1.16 (1.03, 1.32),p=0.015
- 1.5Yr - 4Yr: HR=0.98 (0.89, 1.08),p=0.649
- 4Yr+: HR=1.09 (1.01, 1.18),p=0.035

Patients aged ≥75 years have a lower rate of revision than patients aged:

- <55 years (after 6 months),
- 55-64 years (after 6 months),
- 65-74 years (after 11 years)

Note: All procedures using metal/metal have been excluded
Restricted to modern prostheses

Figure HT8 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Gender (Primary Diagnosis OA)

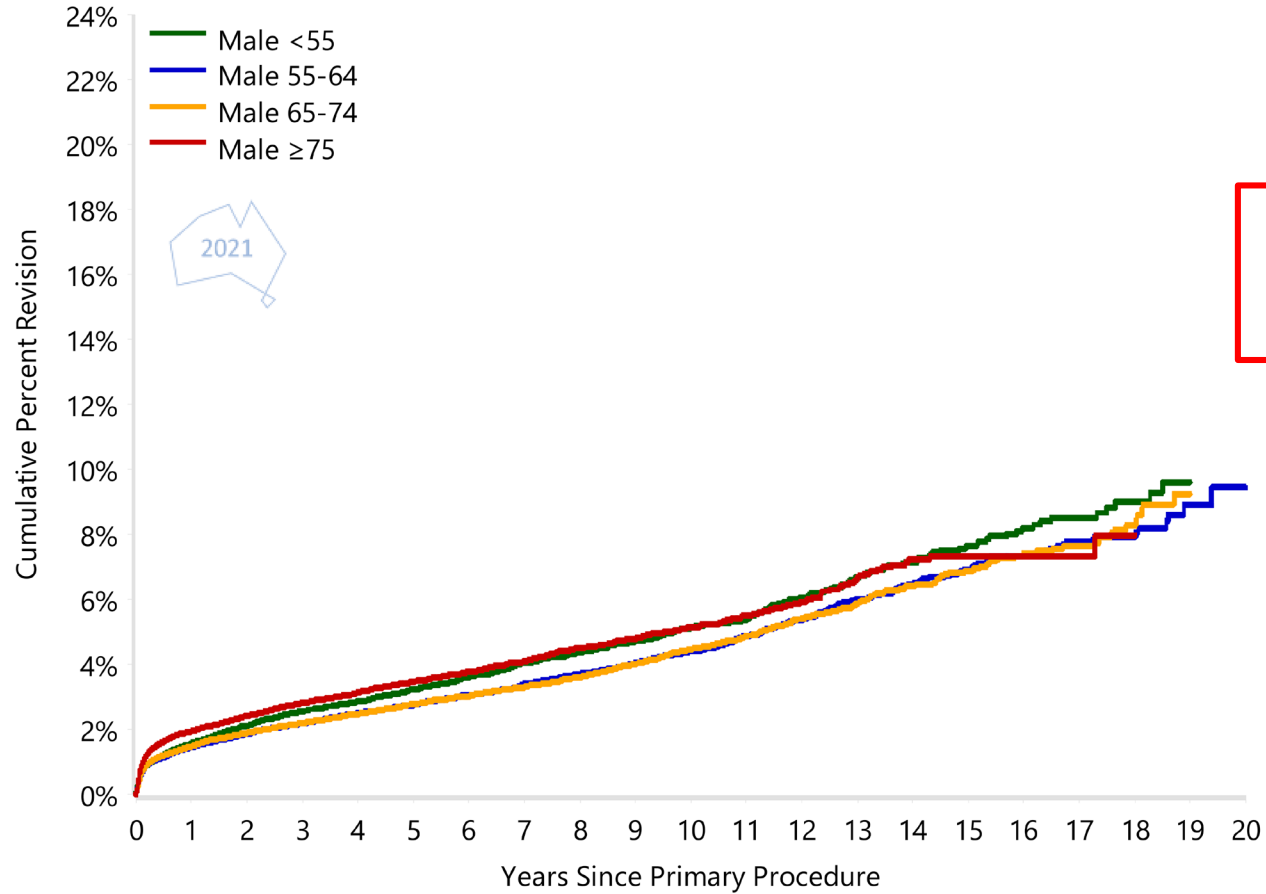


There is a higher rate of revision for males than females after 6 months.

Note: All procedures using metal/metal have been excluded
Restricted to modern prostheses

Figure HT9

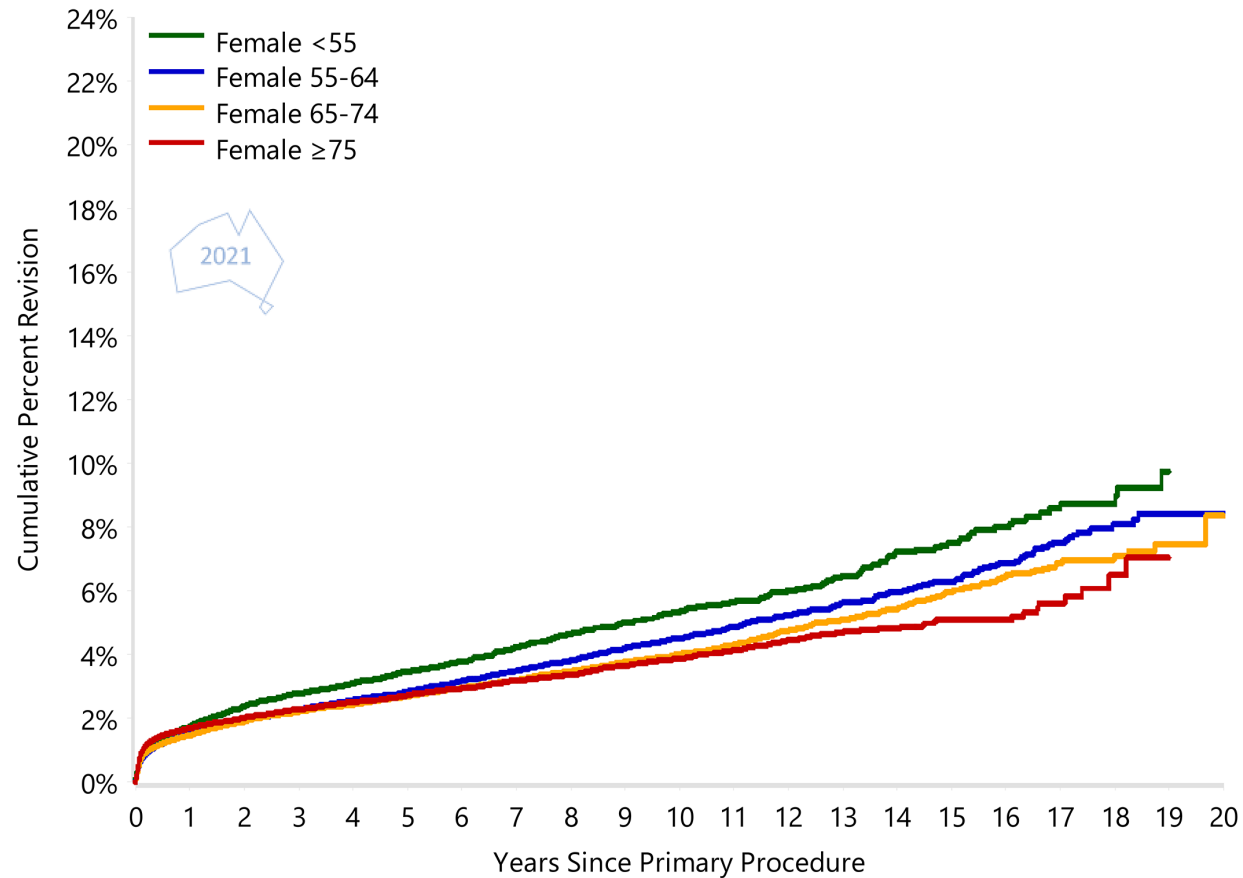
Cumulative Percent Revision of Primary Total Conventional Hip Replacement in Males by Age (Primary Diagnosis OA)



The rate of revision decreases with increasing age as time progresses.

Note: All procedures using metal/metal have been excluded
Restricted to modern prostheses

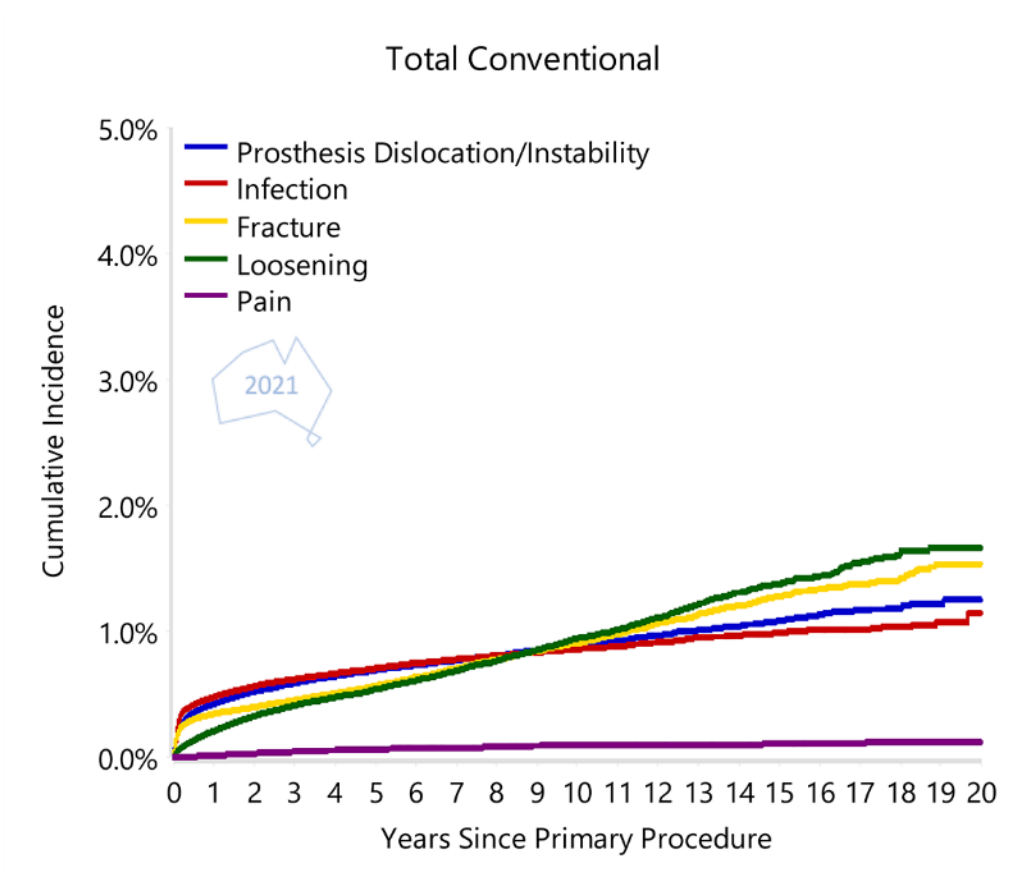
Figure HT10 Cumulative Percent Revision of Primary Total Conventional Hip Replacement in Females by Age (Primary Diagnosis OA)



The rate of revision decreases with increasing age.

Note: All procedures using metal/metal have been excluded
Restricted to modern prostheses

Figure HT6 Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement (Primary Diagnosis OA)

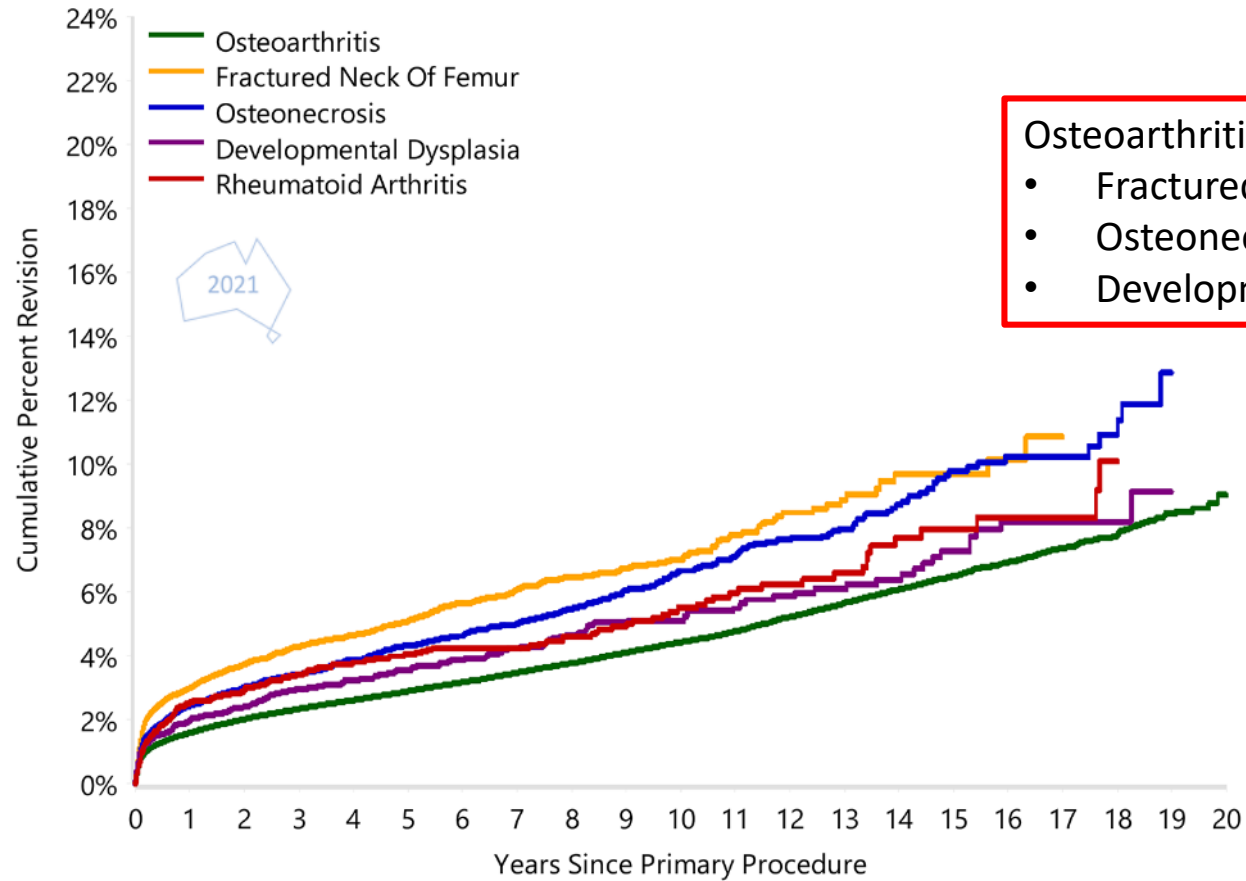


In the first 11 years, dislocation and infection are the most frequent reasons for revision.

After 11 years, loosening is the predominant reason for revision.

Note: All procedures using metal/metal have been excluded
Restricted to modern prostheses

Figure HT4 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Primary Diagnosis



Osteoarthritis has a lower rate of revision compared to:

- Fractured NoF
- Osteonecrosis Rheumatoid arthritis
- Developmental dysplasia (for the first 1 month only)

Note: Only primary diagnoses with over 2,500 procedures have been listed
All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Table HT10 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Primary Diagnosis

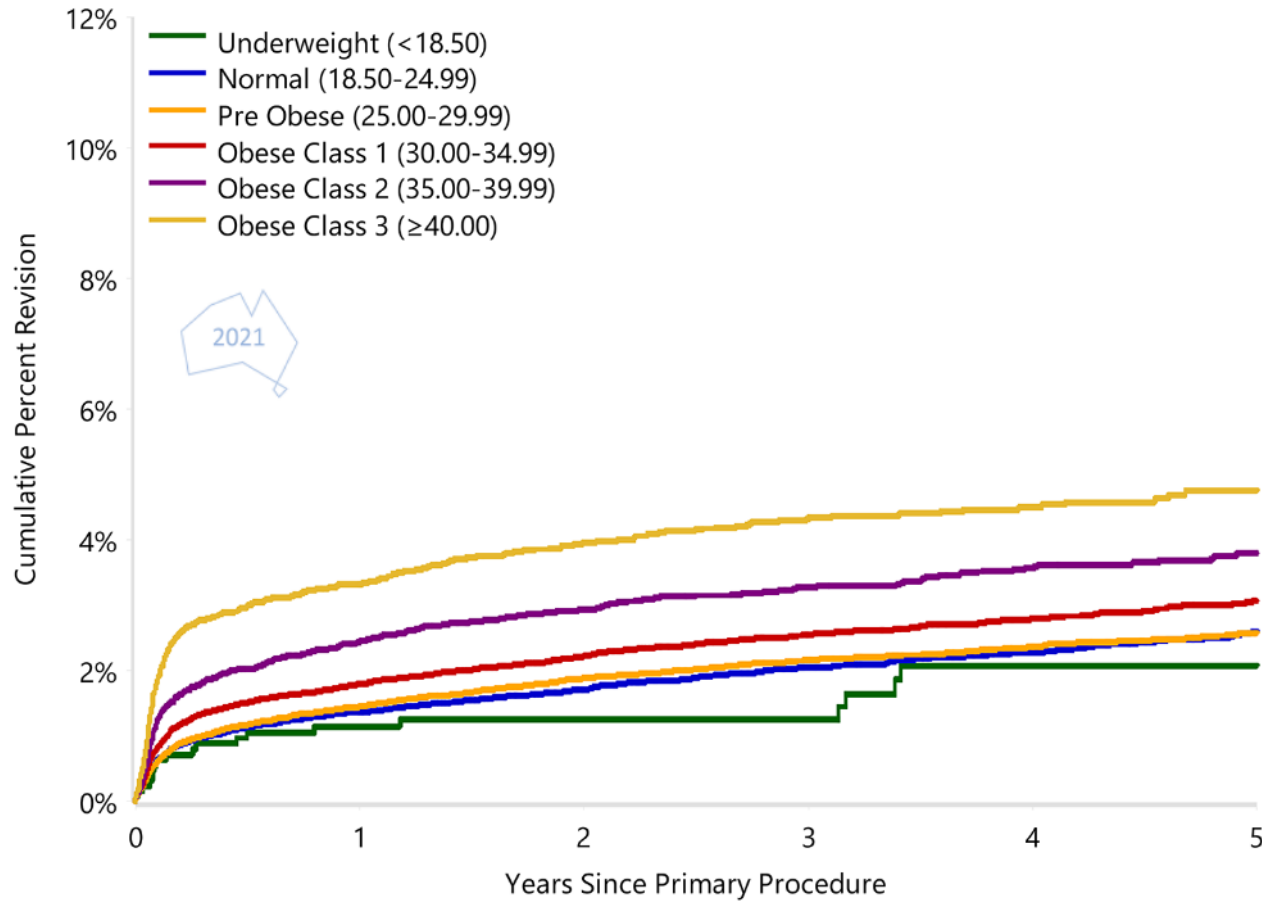


Primary Diagnosis	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	20 Yrs
Osteoarthritis	12028	368834	1.6 (1.5, 1.6)	2.3 (2.3, 2.4)	2.9 (2.8, 3.0)	4.4 (4.3, 4.5)	6.5 (6.3, 6.7)	9.0 (8.3, 9.8)
Fractured Neck Of Femur	1050	22439	3.0 (2.8, 3.2)	4.3 (4.0, 4.6)	5.1 (4.8, 5.4)	7.0 (6.5, 7.6)	9.7 (8.5, 11.0)	
Osteonecrosis	644	13451	2.4 (2.2, 2.7)	3.4 (3.1, 3.8)	4.3 (3.9, 4.7)	6.7 (6.1, 7.3)	9.8 (8.7, 11.0)	
Developmental Dysplasia	224	5468	1.9 (1.6, 2.4)	3.0 (2.5, 3.5)	3.6 (3.1, 4.1)	5.1 (4.4, 5.9)	7.3 (6.1, 8.7)	
Rheumatoid Arthritis	160	3424	2.6 (2.1, 3.2)	3.4 (2.8, 4.1)	4.0 (3.4, 4.8)	5.5 (4.6, 6.5)	8.0 (6.5, 9.8)	
Tumour	122	2351	4.7 (3.8, 5.7)	6.9 (5.6, 8.5)	8.1 (6.6, 10.0)	11.7 (8.8, 15.5)		
Other (5)	282	4275	4.0 (3.4, 4.6)	5.8 (5.1, 6.6)	6.7 (5.9, 7.6)	8.9 (7.8, 10.2)	11.4 (9.6, 13.6)	
TOTAL	14510	420242						

2021

Note: All procedures using metal/metal prostheses have been excluded
 Restricted to modern prostheses
 Only primary diagnoses with over 2,000 procedures have been listed

Figure HT15 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by BMI Category (OA)

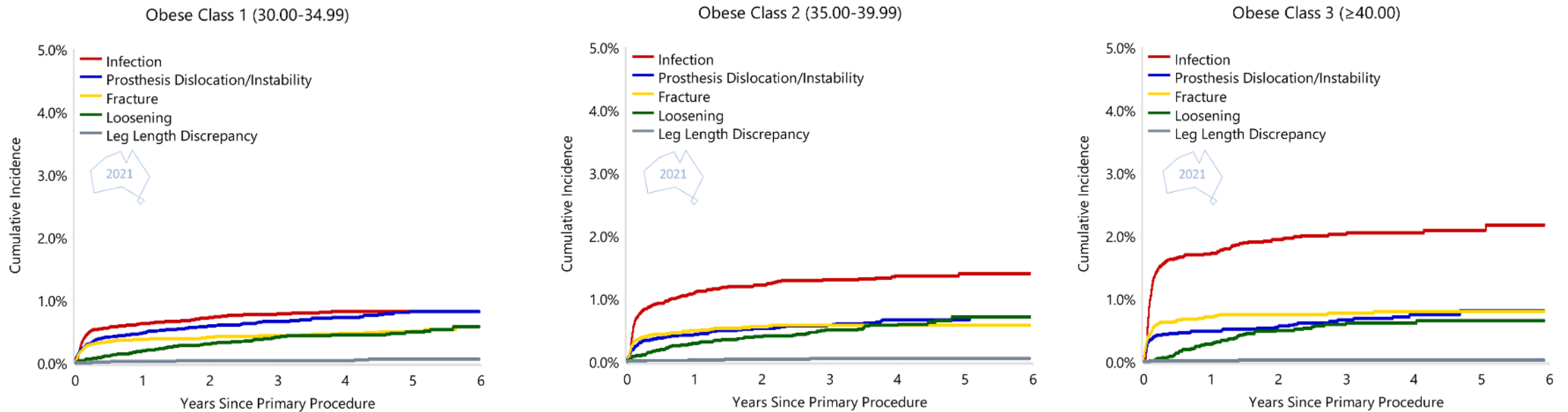


The rate of revision increases for

- Obese class 1
- Obese class 2
- Obese class 3

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses
BMI has not been presented for patients aged ≤ 19 years

Figure HT16 Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement by BMI Category (OA)



Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses, BMI has not been presented for patients aged ≤ 19 years

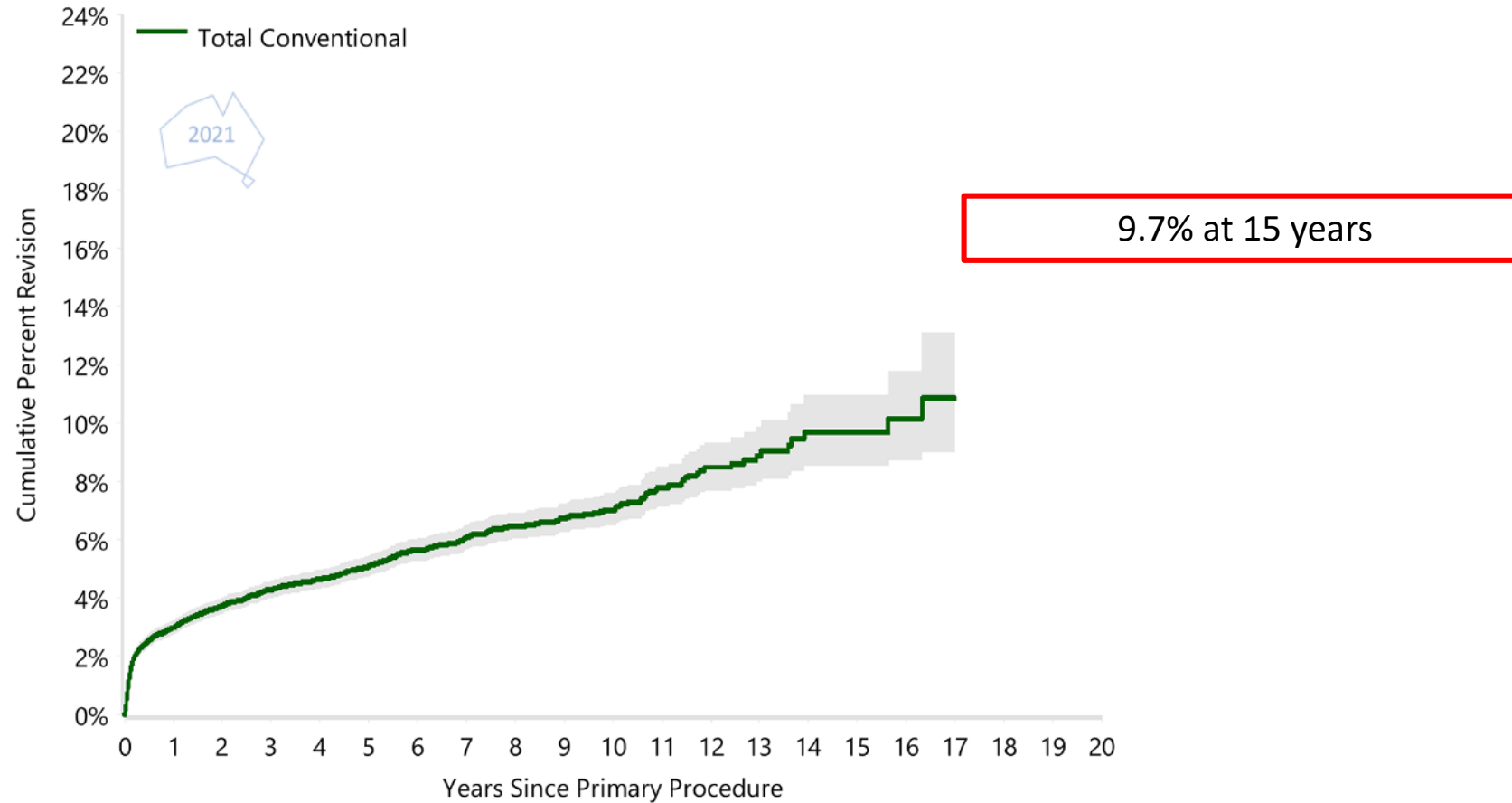


AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry

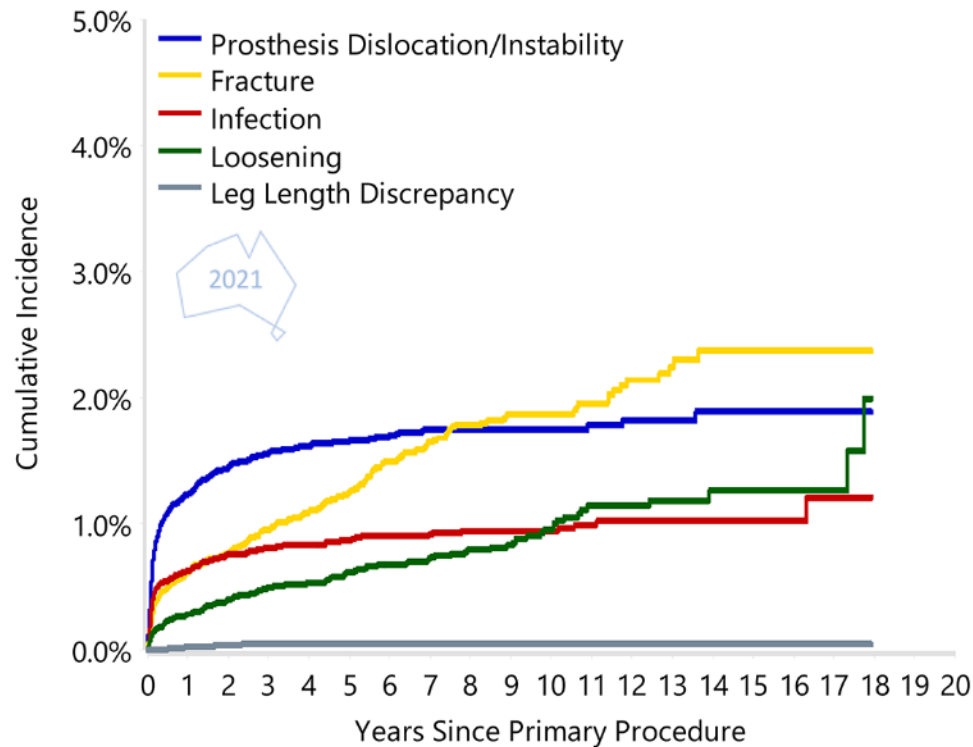
Hip Replacement for Fractured Neck of Femur

Figure HT56 Cumulative Percent Revision of Primary Total Conventional Hip Replacement (Primary Diagnosis Fractured NoF)



Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

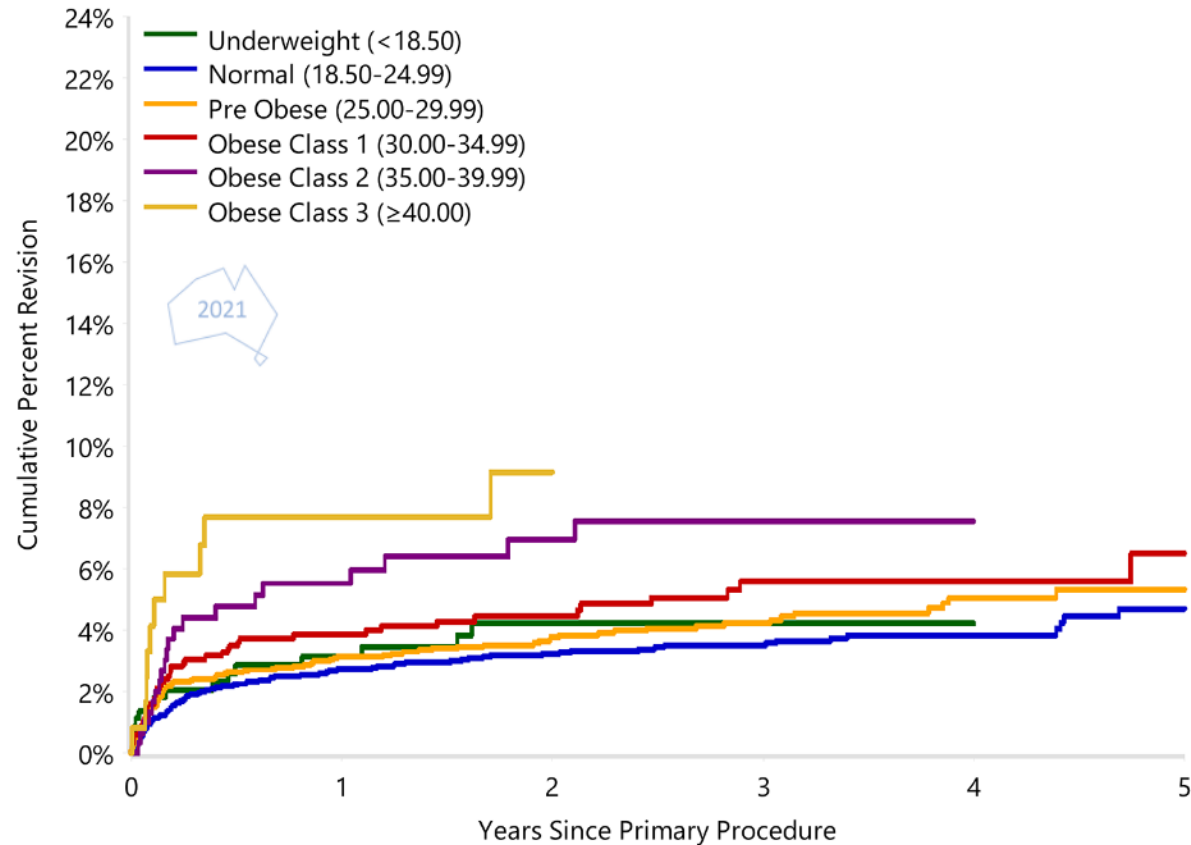
Figure HT58 Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement (Primary Diagnosis Fractured NoF)



Prosthesis dislocation/instability and fracture are the most common reasons for revision.

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Figure HT61 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by BMI Category (Primary Diagnosis Fractured NoF)



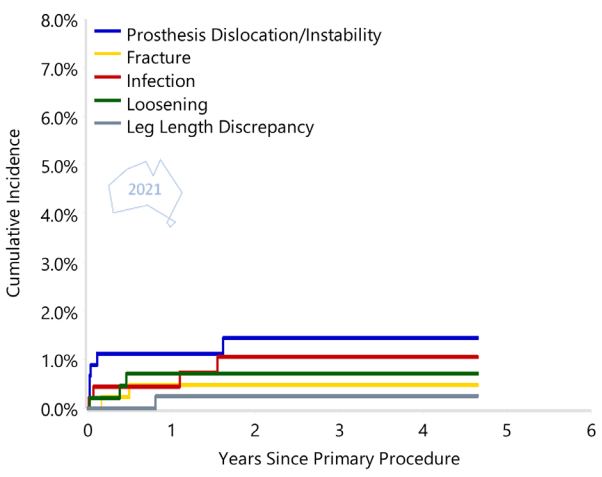
Patients in Obese Class 3 have a higher rate of revision than patients with a normal BMI.

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses
BMI has not been presented for patients aged ≤19 years

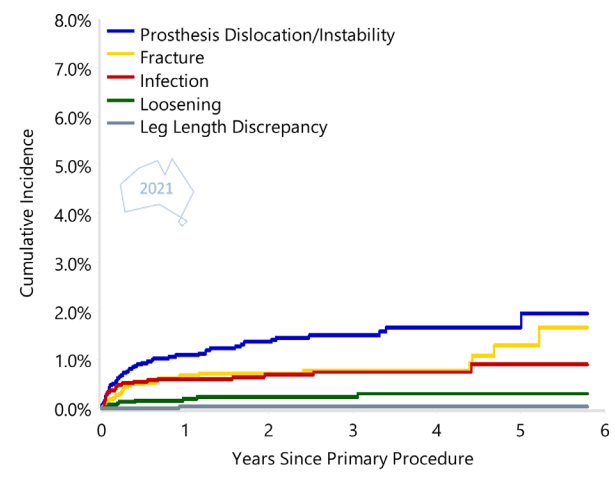
Figure HT62 Cumulative Incidence Revision Diagnosis of Primary Total Conventional Hip Replacement by BMI Category (Primary Diagnosis Fractured NoF)



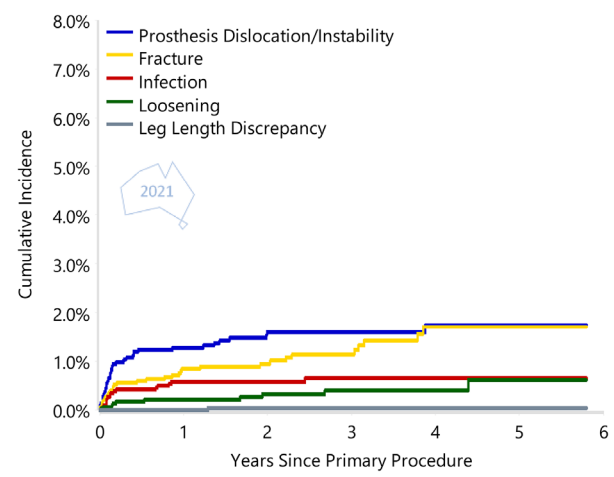
Underweight (<18.50)



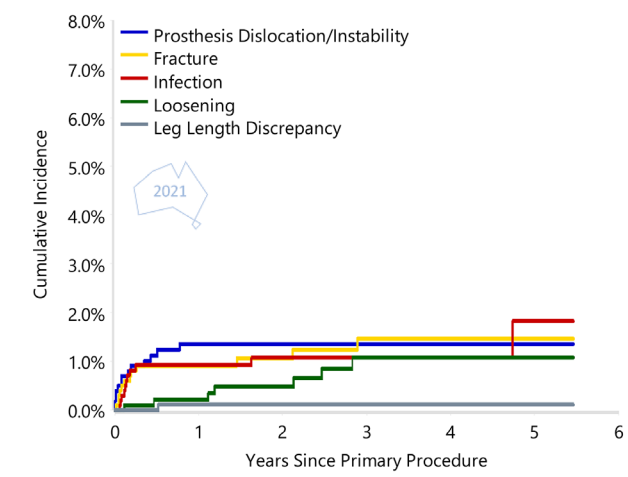
Normal (18.50-24.99)



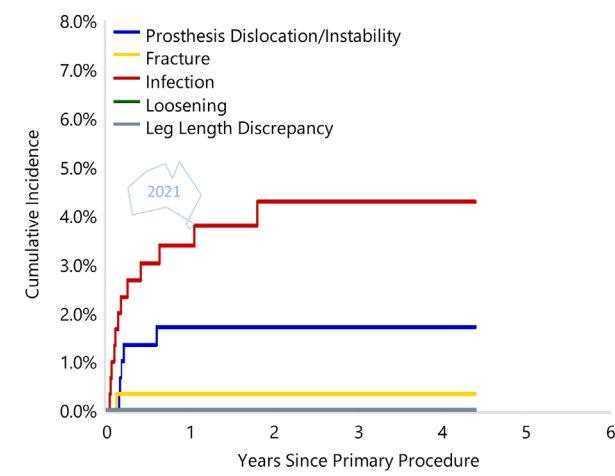
Pre Obese (25.00-29.99)



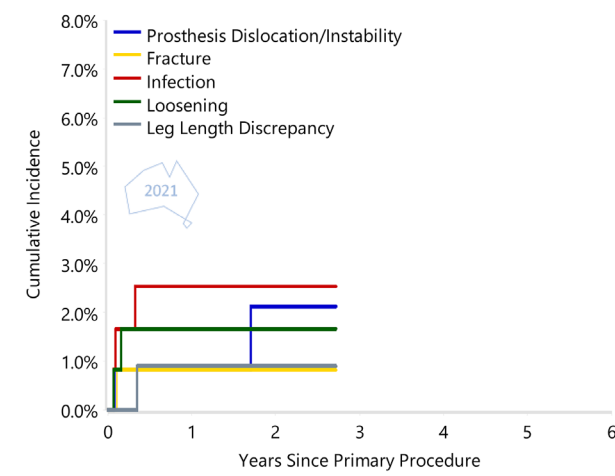
Obese Class 1 (30.00-34.99)



Obese Class 2 (35.00-39.99)



Obese Class 3 (≥40.00)



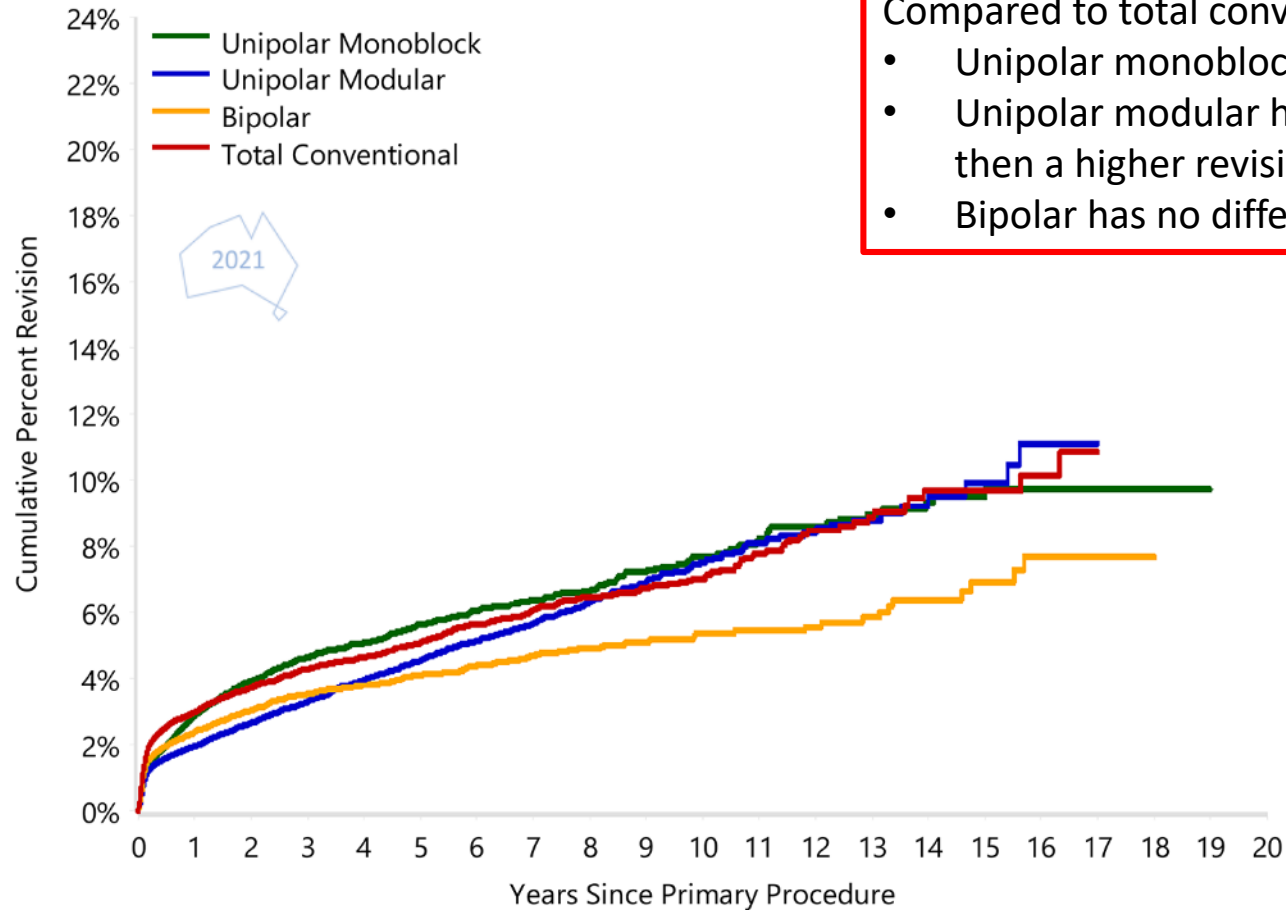
Note: All procedures using metal/metal prostheses have been excluded
 Restricted to modern prostheses
 BMI has not been presented for patients aged ≤19 years

Figure HT70 Cumulative Percent Revision of Primary Hip Replacement by Class
(Primary Diagnosis Fractured NoF)



AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry



Compared to total conventional hip replacement:

- Unipolar monoblock has a higher revision rate (after 3 months).
- Unipolar modular has a lower revision rate (in the first month) then a higher revision rate (after 1.5 years).
- Bipolar has no difference.

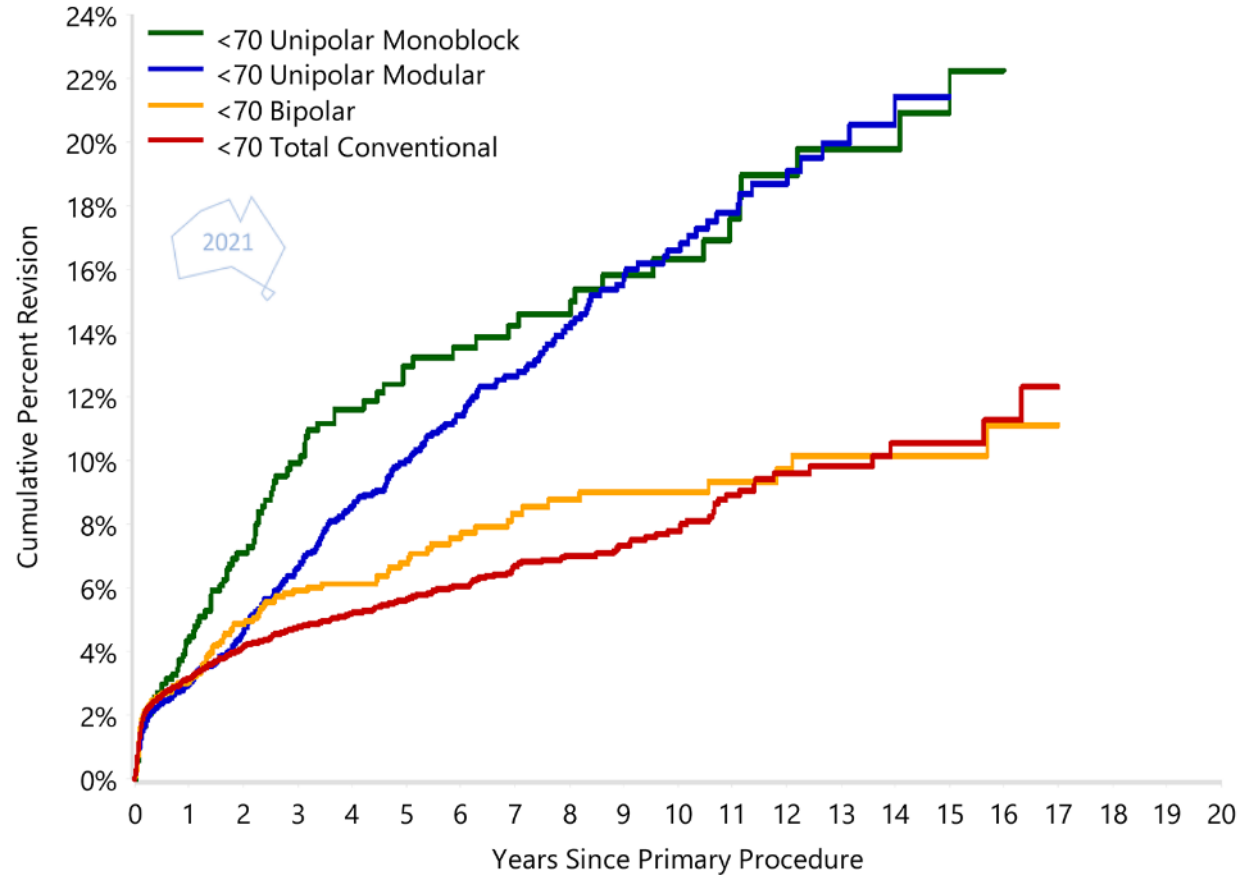
Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Figure HT71 Cumulative Percent Revision of Primary Hip Replacement in Patients Aged <70 Years by Class (Primary Diagnosis Fractured NoF)



AOANJRR

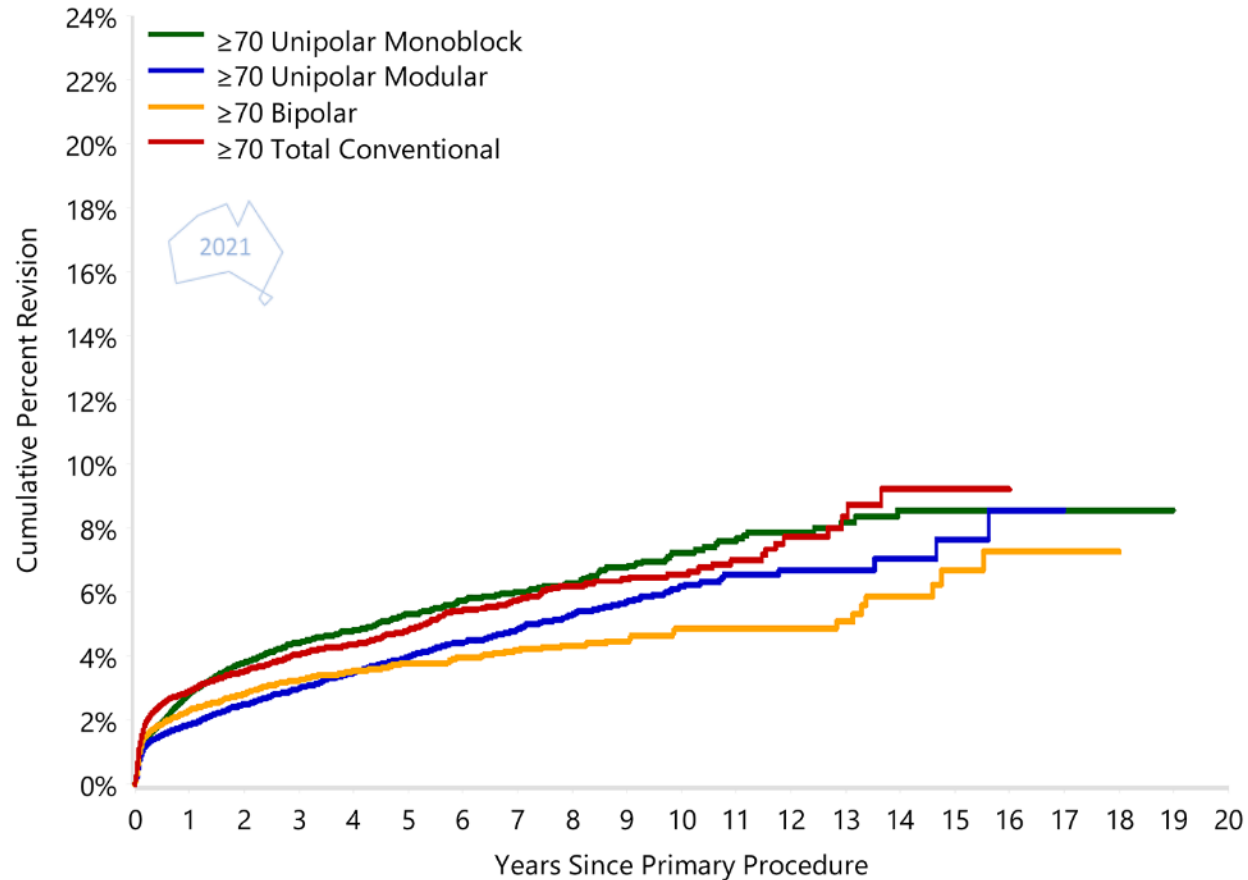
Australian
Orthopaedic
Association
National
Joint
Replacement
Registry



Patients aged <70 years with a unipolar monoblock and unipolar modular have higher rates of revision compared to total conventional.

Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Figure HT72 Cumulative Percent Revision of Primary Hip Replacement in Patients Aged ≥ 70 Years by Class (Primary Diagnosis Fractured NoF)

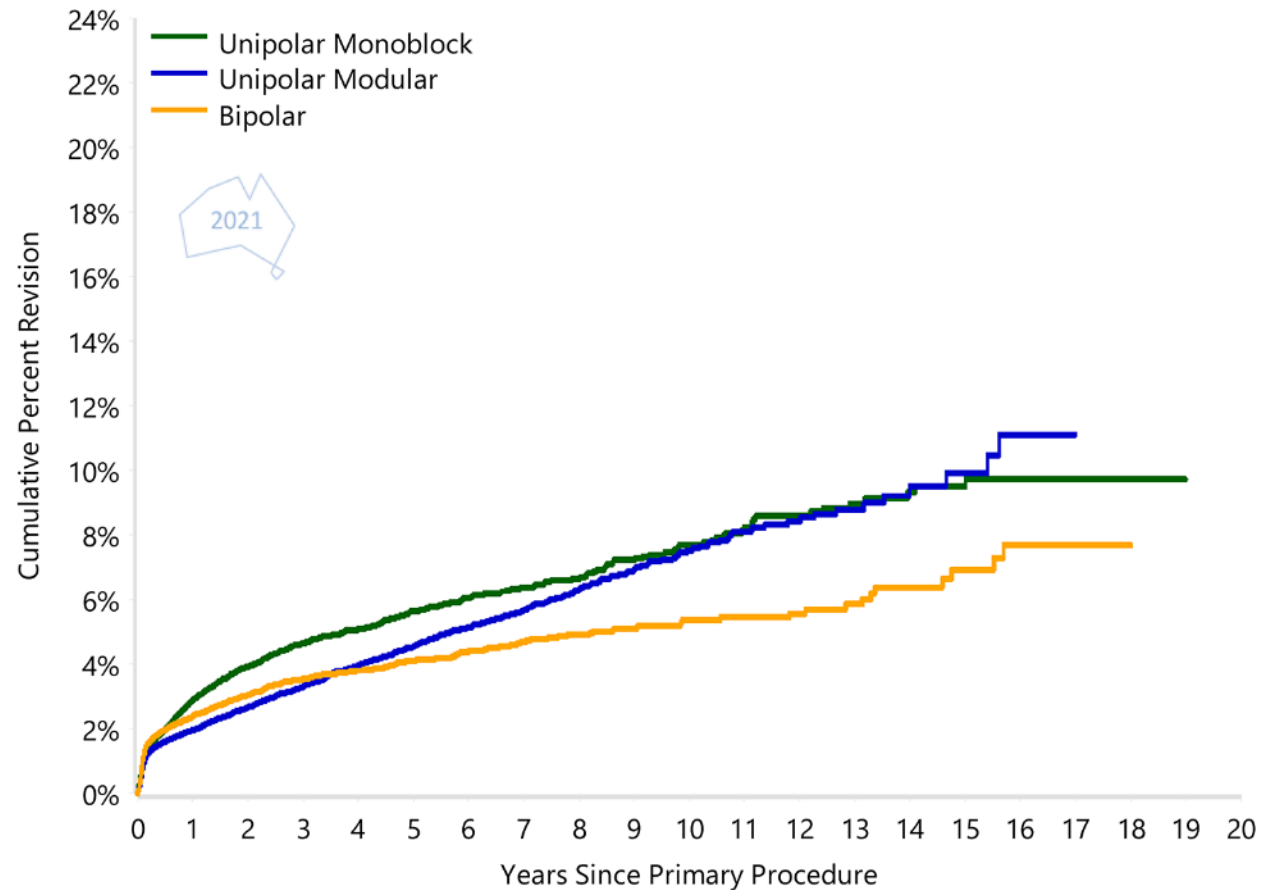


Note: All procedures using metal/metal prostheses have been excluded
Restricted to modern prostheses

Patients aged ≥ 70 years compared to total conventional hip replacement :

- Unipolar monoblock has a lower rate of revision from 2 weeks to 3 months. From 3 months onwards there is a higher rate of revision.
- Unipolar modular has lower rate of revision (in the first 1.5 years) followed by a higher rate of revision from 3.5 years onwards.
- Bipolar hip replacement has a lower rate of revision than total conventional hip replacement for the entire period.

Figure HP2 Cumulative Percent Revision of Primary Partial Hip Replacement by Class (Fractured NoF)



At 10 years
bipolar has the lowest CPR
for fractured neck of femur.

Note: Restricted to modern prostheses

Table HP3 Cumulative Percent Mortality of Primary Partial Hip Replacement by Class (Fractured NoF)



Bipolar has the lowest mortality rate at 10 years.

Hip Class	N Deceased	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Unipolar Monoblock	25095	27698	37.0 (36.4, 37.6)	60.9 (60.3, 61.4)	76.8 (76.3, 77.4)	86.2 (85.7, 86.6)	93.2 (92.9, 93.6)
Unipolar Modular	26336	39557	26.3 (25.9, 26.8)	47.4 (46.8, 47.9)	63.1 (62.6, 63.7)	74.4 (73.9, 74.9)	84.5 (83.9, 85.0)
Bipolar	12426	21651	24.0 (23.4, 24.6)	43.9 (43.2, 44.7)	59.2 (58.4, 60.0)	69.9 (69.1, 70.7)	81.1 (80.2, 81.9)
TOTAL	63857	88906					

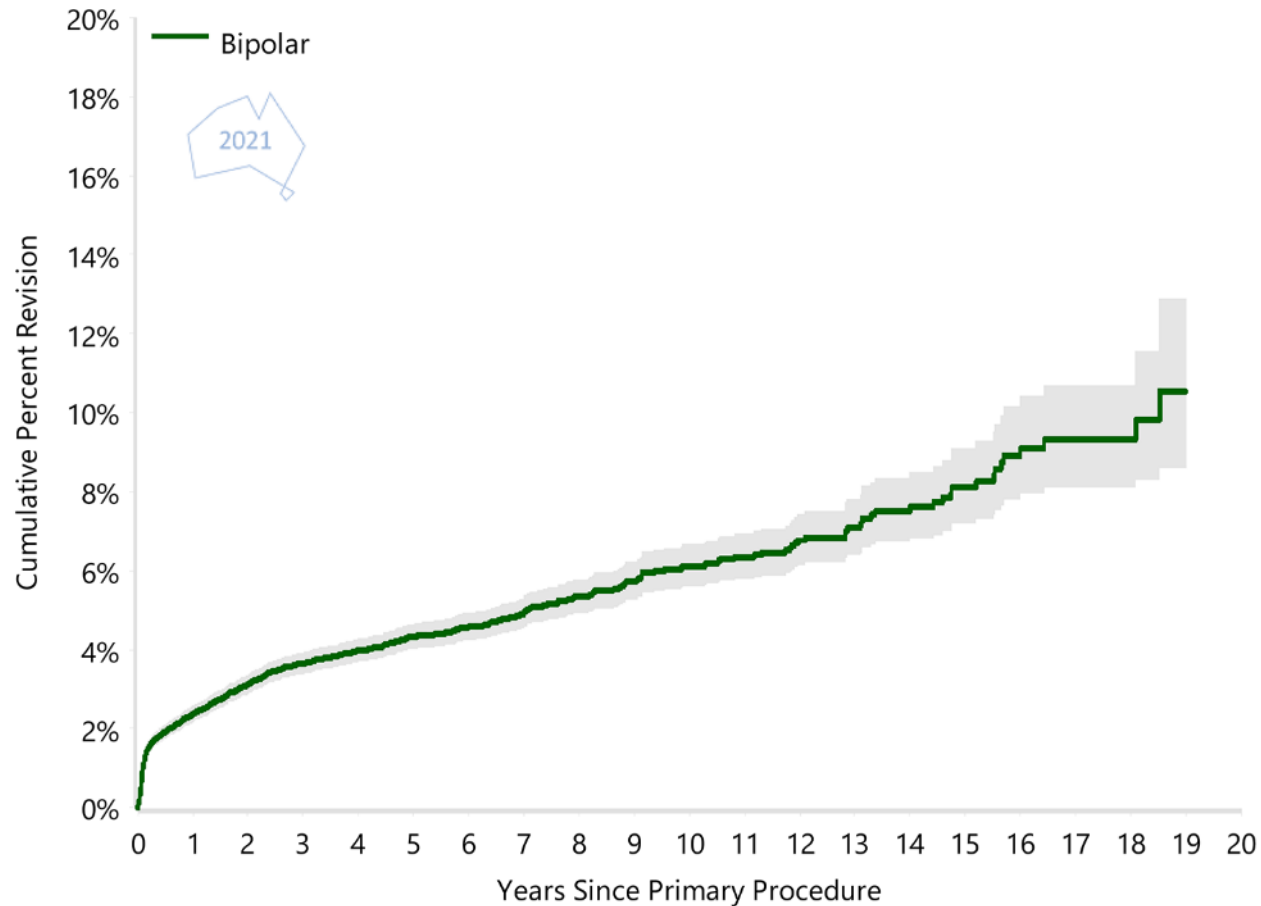
Note: Restricted to modern prostheses

Figure SHP20 Cumulative Percent Revision of Primary Bipolar Hip Replacement (Fractured NoF)



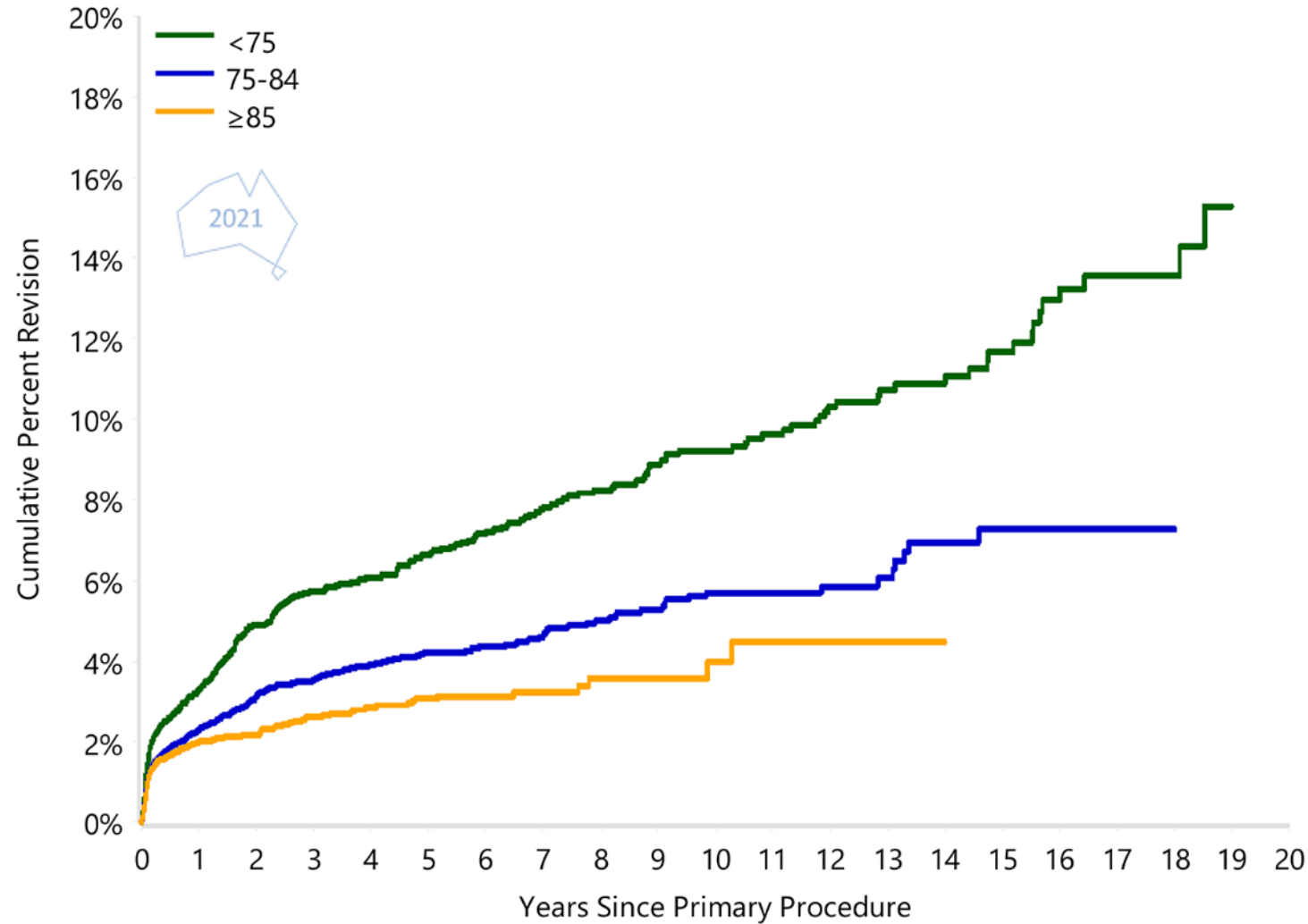
AOANJRR

Australian
Orthopaedic
Association
National
Joint
Replacement
Registry



6.1% at 10 years

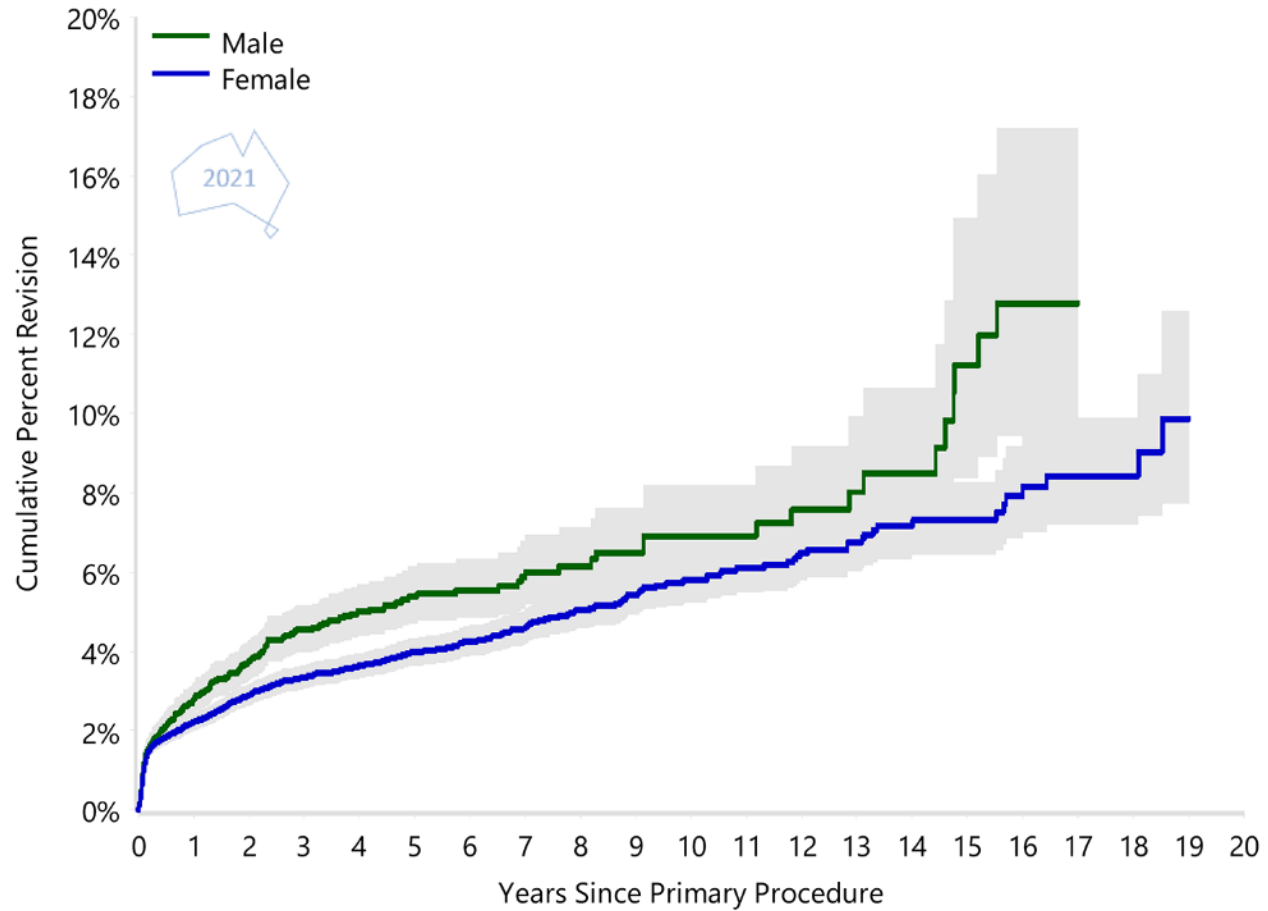
Figure SHP21 Cumulative Percent Revision of Primary Bipolar Hip Replacement by Age (Fractured NoF)



Patients aged <75 years with a primary diagnosis of fractured NoF have a higher rate of revision than the other age groups.

Patients aged 75-84 years with a primary diagnosis of fractured NoF have a higher rate of revision compared to patients aged ≥85 years from 3 months onwards.

Figure SHP22 Cumulative Percent Revision of Primary Bipolar Hip Replacement by Gender (Fractured NoF)



Males with a primary diagnosis of fractured NoF have a higher rate of revision.