

Australian Registry Results 2011

The latest Australian Orthopaedic Association National Joint Replacement Registry Annual Report contains data from September 1999 to December 2010 and has one of the most complete national datasets. The information is extremely useful to compare unbiased clinical results of various primary total conventional hip replacements by bearing surface.

This year's registry continues to include the "Ceramicised Metal/Modified Polyethylene" bearing surface category. Ceramicised metal is a metal that undergoes a transformation that creates a surface which is ceramic while leaving the substrate unmodified. One change from the 2010 report is the clarification that the "Ceramicised Metal/ Modified Polyethylene" category consists of "a single company," that company being Smith & Nephew.

Summary of Ceramicised Metal/Modified Polyethylene data

- Highest survivorship of all bearing categories at 7 years – 97.8%
- Lowest revisions per 100 observation years of all bearing types at 7 years – 0.48 (0.39, 0.58) revisions/100 Obs. Yrs.

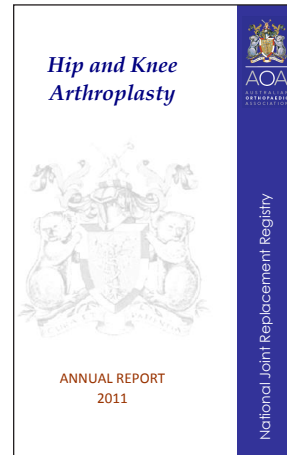


Figure HT19: Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Bearing Surface (Primary Diagnosis OA)

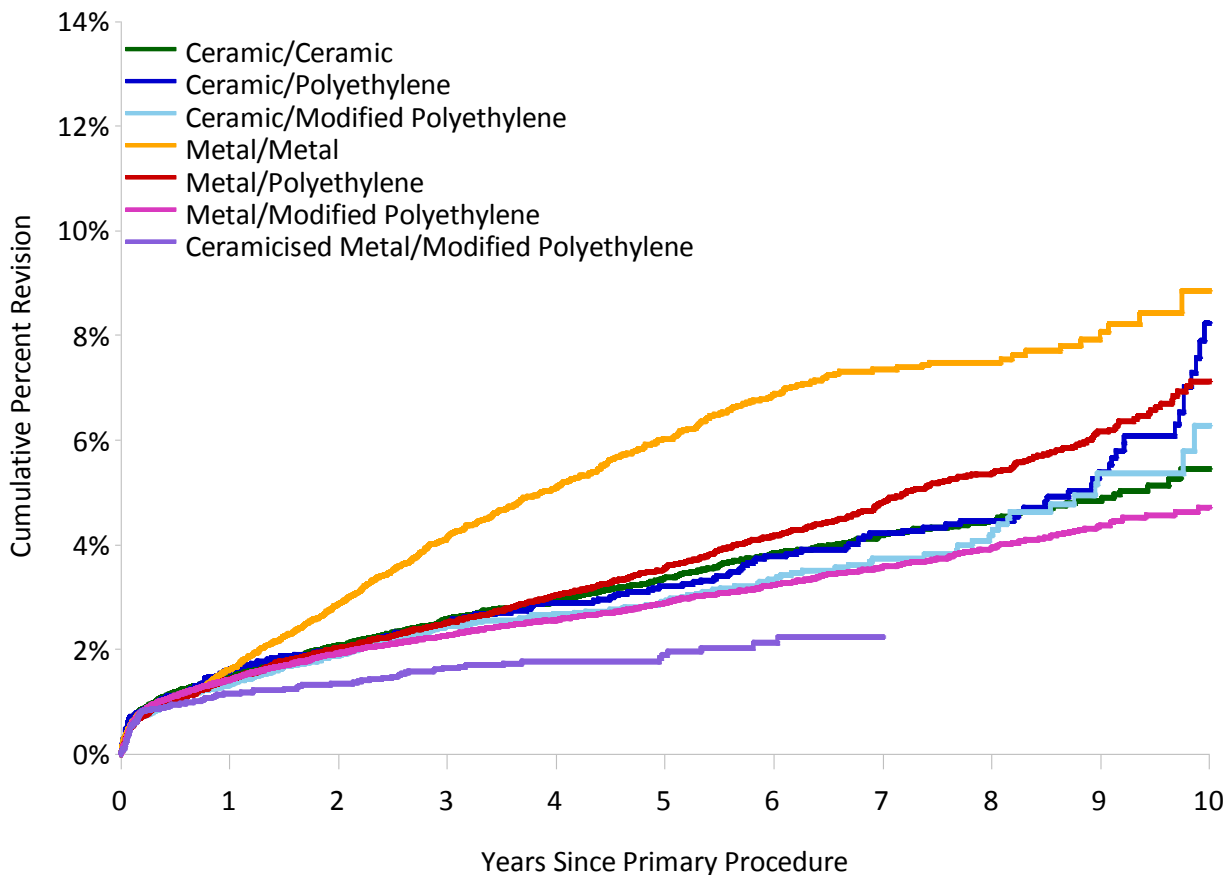


Table HT32: Yearly Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Bearing Surface (Primary Diagnosis OA)

CPR	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Ceramic/Ceramic	1.5 (1.4, 1.6)	2.6 (2.4, 2.8)	3.4 (3.2, 3.6)	4.2 (3.9, 4.5)	5.4 (4.8, 6.1)
Ceramic/Polyethylene	1.6 (1.3, 2.0)	2.5 (2.1, 3.0)	3.2 (2.7, 3.8)	4.2 (3.6, 5.0)	8.2 (6.6, 10.3)
Ceramic/Modified Polyethylene	1.3 (1.1, 1.6)	2.4 (2.1, 2.8)	2.9 (2.6, 3.3)	3.7 (3.2, 4.3)	6.3 (4.8, 8.1)
Metal/Metal	1.6 (1.4, 1.8)	4.2 (3.9, 4.5)	6.0 (5.6, 6.5)	7.3 (6.8, 7.9)	8.8 (7.7, 10.1)
Metal/Polyethylene	1.4 (1.3, 1.6)	2.5 (2.3, 2.7)	3.6 (3.3, 3.8)	4.8 (4.5, 5.2)	7.1 (6.5, 7.8)
Metal/Modified Polyethylene	1.4 (1.3, 1.5)	2.3 (2.2, 2.4)	2.9 (2.7, 3.0)	3.6 (3.4, 3.8)	4.7 (4.3, 5.1)
Ceramicised Metal/Modified Polyethylene	1.2 (0.9, 1.5)	1.6 (1.3, 2.0)	1.9 (1.5, 2.3)	2.2 (1.8, 2.8)	
Other (6)	2.2 (1.5, 3.3)	3.8 (2.7, 5.4)	4.1 (2.8, 5.8)	6.3 (4.1, 9.7)	

Table HT31: Revision Rates of Primary Total Conventional Hip Replacement by Bearing Surface (Primary Diagnosis OA)

Bearing Surface	N Revised	N Total	Obs. Years	Revisions/100 Obs. Yrs (95% CI)
Ceramic/Ceramic	1057	36659	145897	0.72 (0.68, 0.77)
Ceramic/Polyethylene	174	4352	24926	0.70 (0.60, 0.81)
Ceramic/Modified Polyethylene	291	12143	40851	0.71 (0.63, 0.80)
Metal/Metal	925	18880	75461	1.23 (1.15, 1.31)
Metal/Polyethylene	917	21841	123871	0.74 (0.69, 0.79)
Metal/Modified Polyethylene	1845	72128	289287	0.64 (0.61, 0.67)
Ceramicised Metal/Modified Polyethylene	103	6416	21474	0.48 (0.39, 0.58)
Other (6)	41	1172	3243	1.26 (0.91, 1.72)
TOTAL	5353	173591	725009	0.74 (0.72, 0.76)

Note: Only bearing surfaces with a follow up of seven or more years have been listed.
Other includes Ceramic/Metal, Metal/Ceramic, Ceramicised Metal/Metal, Ceramicised Metal/Polyethylene, Ceramicised Metal/Ceramic

Although the ceramicised metal/modified polyethylene combination has the lowest reported cumulative percent revision at seven years this result should be interpreted with caution (Tables HT31 and HT32). It is the Registry's view that this articulation cannot be compared to other articulations as it has only been used with a small number of femoral stem and acetabular combinations from a single company. The results should not be compared due to the inability to correct for the confounding effect of the limited number of stem/acetabular combinations.

Registries are a useful tool to help surgeons select prostheses that have been shown to have proven clinical results. We at Smith & Nephew hope that you find this information helpful in determining the best prostheses for you and your patients.

Data has been sourced from the Australian Orthopaedic Association National Joint Replacement Registry Annual Report. Adelaide: AOA: 2011. Tables have been reproduced in exact and complete form. For a full copy of the AOA National Joint Replacement Registry report, see <http://www.dmac.adelaide.edu.au/aoanjrr/publications.jsp>

For more information on VERILAST[®] Ceramicised Metal/Modified Polyethylene please contact your local Smith & Nephew representative.