

Australian Registry Results 2016

The Australian Orthopedic Association National Joint Replacement Registry Annual Report has been published. It contains unbiased clinical results of various primary total conventional hip replacements by bearing surface from September 1999 to December 2015.

The registry continues to include VERILAST® in the “Ceramicised Metal/XLPE” bearing surface category. Ceramicised metal is a metal that undergoes transformation to create a surface which is ceramic while leaving the core metal substrate unmodified. The Ceramicised Metal/XLPE bearing couples tracked by the registry are all manufactured by “a single company” and that company is Smith & Nephew.

Summary of the Ceramicised Metal/XLPE data

- Highest survivorship of all bearing categories at 10 years – 96.8%
- 16,078 reported primary procedures

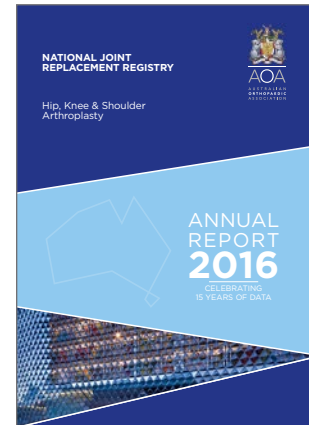


Table HT28 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Bearing Surface (Primary Diagnosis OA)

Bearing Surface	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
Ceramic/Ceramic	2409	72139	1.5 (1.4, 1.6)	2.4 (2.3, 2.5)	3.1 (3.0, 3.3)	3.9 (3.7, 4.1)	5.0 (4.8, 5.3)	7.1 (6.4, 7.8)
Ceramic/Non XLPE	388	5836	1.8 (1.5, 2.2)	3.0 (2.6, 3.5)	3.7 (3.2, 4.3)	4.7 (4.2, 5.4)	7.0 (6.3, 7.8)	12.0 (10.7, 13.5)
Ceramic/XLPE	973	39349	1.6 (1.5, 1.7)	2.5 (2.3, 2.6)	3.0 (2.8, 3.2)	3.6 (3.3, 3.8)	4.4 (4.0, 4.8)	
Ceramic/Metal	18	299	1.7 (0.7, 4.0)	3.7 (2.1, 6.6)	4.4 (2.6, 7.4)	8.3 (4.9, 13.9)		
Metal/Metal	323	5147	1.5 (1.2, 1.9)	3.3 (2.8, 3.8)	4.4 (3.8, 5.0)	5.1 (4.5, 5.8)	6.4 (5.7, 7.2)	8.8 (7.6, 10.1)
Metal/Non XLPE	2127	34267	1.4 (1.3, 1.5)	2.4 (2.3, 2.6)	3.4 (3.2, 3.6)	4.5 (4.3, 4.7)	6.3 (6.1, 6.6)	10.0 (9.5, 10.6)
Metal/XLPE	3399	118982	1.5 (1.5, 1.6)	2.3 (2.2, 2.4)	2.9 (2.8, 3.0)	3.4 (3.3, 3.6)	4.3 (4.1, 4.5)	5.8 (5.2, 6.5)
Ceramicised Metal/Non XLPE	33	288	1.7 (0.7, 4.1)	3.9 (2.2, 7.0)	4.3 (2.5, 7.5)	7.8 (5.1, 11.8)	13.0 (9.2, 18.2)	
Ceramicised Metal/XLPE	353	16078	1.5 (1.3, 1.7)	2.0 (1.8, 2.2)	2.3 (2.0, 2.5)	2.6 (2.3, 2.9)	3.2 (2.9, 3.7)	
TOTAL	10023	292385						

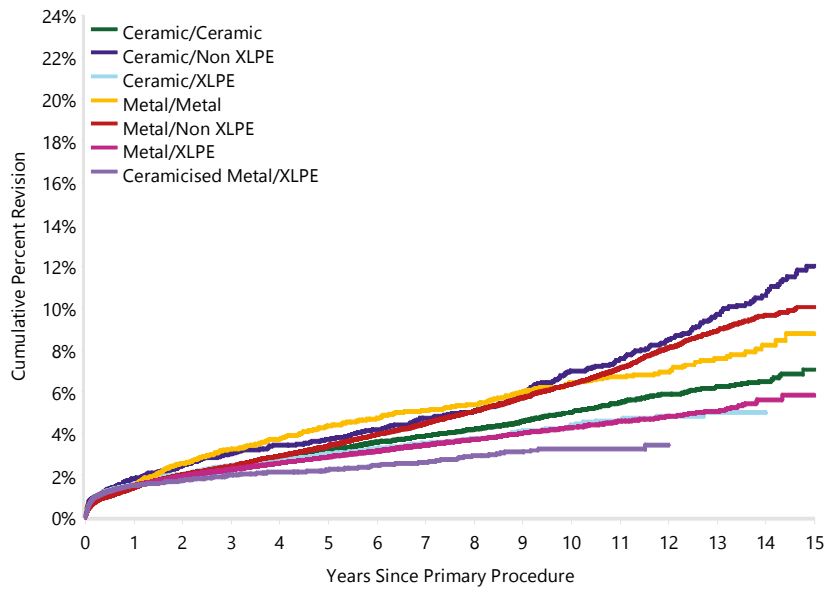
Note: Excludes 169 procedures with unknown bearing surface, one procedure with Ceramicised Metal/Ceramic bearing surface and 10 procedures with Metal/Ceramic bearing surface
All procedures using metal/metal prostheses with head size larger than 32mm have been excluded

Although the Ceramicised Metal/XLPE combination has the lowest reported cumulative percent revision at 10 years, this result should be interpreted with caution. This bearing is a single company product used with a small number of femoral stem and acetabular component combinations. This may have a confounding effect on the outcome, making it unclear if the lower rate of revision is an effect of the bearing surface or reflects the limited combination of femoral and acetabular prostheses.

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: 2016. Tables have been reproduced in exact and complete form. For a full copy of the AOA National Joint Replacement Registry report, see <https://aoanjrr.dmac.adelaide.edu.au/annual-reports-2016>.

Figure HT23 Cumulative Percent Revision of Primary Total Conventional Hip Replacement by Bearing Surface (Primary Diagnosis OA)



HR – adjusted for age and gender

Ceramic/Ceramic vs Metal/XLPE	Entire Period: HR=1.07 (1.01, 1.13),p=0.013
Ceramic/Non XLPE vs Metal/XLPE	0 - 3Yr: HR=1.33 (1.14, 1.56),p<0.001 3Yr - 5Yr: HR=1.07 (0.75, 1.53),p=0.722 5Yr - 9Yr: HR=1.78 (1.42, 2.24),p<0.001 9Yr - 11Yr: HR=2.69 (1.96, 3.69),p<0.001 11Yr+: HR=3.23 (2.42, 4.33),p<0.001
Ceramic/XLPE vs Metal/XLPE	0 - 3Yr: HR=1.08 (1.00, 1.17),p=0.064 3Yr+: HR=0.82 (0.70, 0.96),p=0.015
Metal/Metal vs Metal/XLPE	Entire Period: HR=1.39 (1.24, 1.56),p<0.001
Metal/Non XLPE vs Metal/XLPE	0 - 1Mth: HR=0.78 (0.66, 0.92),p=0.003 1Mth - 6Mth: HR=1.00 (0.86, 1.17),p=0.964 6Mth - 1Yr: HR=1.37 (1.14, 1.66),p<0.001 1Yr - 5Yr: HR=1.39 (1.27, 1.52),p<0.001 5Yr - 7Yr: HR=1.78 (1.54, 2.05),p<0.001 7Yr - 9Yr: HR=2.04 (1.74, 2.40),p<0.001 9Yr - 12Yr: HR=2.54 (2.17, 2.97),p<0.001 12Yr+: HR=2.22 (1.69, 2.93),p<0.001
Ceramicised Metal/XLPE vs Metal/XLPE	0 - 1Yr: HR=1.03 (0.90, 1.18),p=0.620 1Yr+: HR=0.55 (0.46, 0.66),p<0.001

Number at Risk	0 Yr	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
Ceramic/Ceramic	72139	64031	48314	34036	22657	11948	261
Ceramic/Non XLPE	5836	5278	4572	4017	3540	2654	345
Ceramic/XLPE	39349	30284	18586	11044	6242	2210	17
Metal/Metal	5147	5010	4747	4432	3850	2565	86
Metal/Non XLPE	34267	32914	30315	27192	22959	15564	980
Metal/XLPE	118982	104133	77281	53619	33463	14319	91
Ceramicised Metal/XLPE	16078	13726	9702	6188	3989	1374	0

Note: All procedures using metal/metal prostheses with head size larger than 32mm have been excluded

For more information on VERILAST® Ceramicised Metal/XLPE please contact your local Smith & Nephew representative.