

Australian Registry Results 2018

The Australian Orthopaedic 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 2017.

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 – 96.5%
- 20,327 reported primary procedures



Table HT30 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	10 Yrs	15 Yrs	16 Yrs
Ceramic/Ceramic	3130	84474	1.5 (1.4, 1.6)	2.4 (2.3, 2.5)	3.1 (3.0, 3.2)	5.0 (4.8, 5.2)	7.2 (6.8, 7.5)	7.6 (7.2, 8.1)
Ceramic/Non XLPE	483	6793	1.9 (1.6, 2.3)	3.2 (2.7, 3.6)	3.8 (3.3, 4.3)	7.1 (6.4, 7.9)	12.1 (10.9, 13.3)	13.4 (12.1, 14.9)
Ceramic/XLPE	1631	61666	1.7 (1.6, 1.8)	2.5 (2.4, 2.6)	3.1 (2.9, 3.3)	4.5 (4.2, 4.8)	5.8 (5.2, 6.5)	6.2 (5.3, 7.3)
Ceramic/Metal	20	299	1.7 (0.7, 4.0)	3.7 (2.1, 6.6)	4.4 (2.6, 7.4)			
Metal/Metal >32mm	3119	14421	1.7 (1.5, 1.9)	5.7 (5.3, 6.1)	11.7 (11.2, 12.2)	22.6 (21.9, 23.4)	29.6 (27.7, 31.6)	29.6 (27.7, 31.6)
Metal/Metal ≤32mm	373	5146	1.6 (1.3, 2.0)	3.3 (2.9, 3.8)	4.4 (3.8, 5.0)	6.6 (5.9, 7.4)	8.9 (8.0, 9.9)	9.2 (8.2, 10.2)
Metal/Non XLPE	2497	34837	1.4 (1.3, 1.5)	2.5 (2.3, 2.6)	3.4 (3.3, 3.7)	6.4 (6.1, 6.7)	10.9 (10.4, 11.3)	11.7 (11.2, 12.2)
Metal/XLPE	4577	143028	1.6 (1.5, 1.6)	2.4 (2.3, 2.4)	3.0 (2.9, 3.1)	4.5 (4.4, 4.7)	6.1 (5.8, 6.5)	6.3 (5.9, 6.7)
Ceramicised Metal/Non XLPE	40	293	1.7 (0.7, 4.1)	3.8 (2.1, 6.8)	4.2 (2.4, 7.3)	12.7 (9.1, 17.7)		
Ceramicised Metal/XLPE	517	20327	1.6 (1.5, 1.8)	2.2 (2.0, 2.4)	2.5 (2.2, 2.7)	3.5 (3.2, 3.9)		
TOTAL	16387	371284						

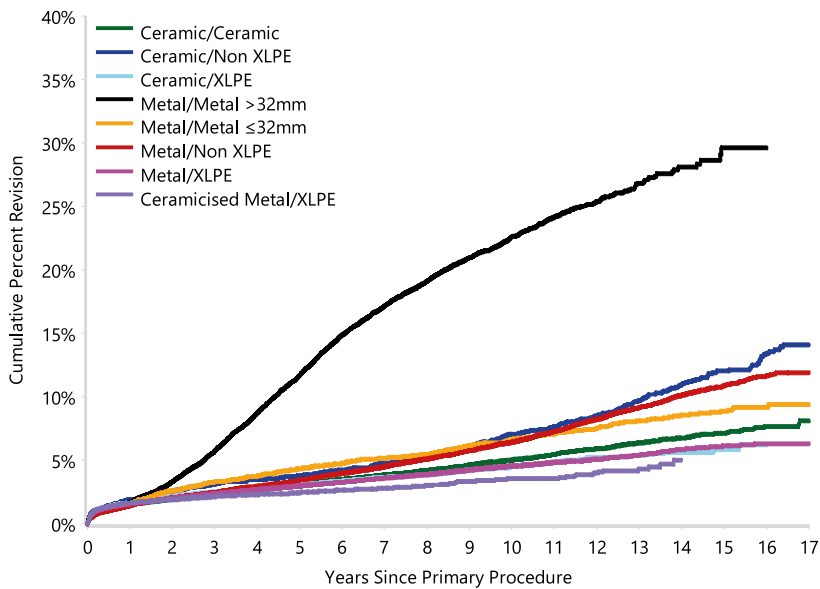
Note: Excludes 200 procedures with unknown bearing surface, one procedure with ceramicised metal/ceramic bearing surface and eight procedures with metal/ceramic bearing surface

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 (AOANJRR). Hip, Knee & Shoulder Arthroplasty: 2018 Annual Report. Adelaide: AOA, 2018. Tables have been reproduced in exact and complete form.

Figure HT27 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=1.02 (0.98, 1.07),p=0.347

Ceramic/Non XLPE vs Metal/XLPE
 0 - 3Mth: HR=1.08 (0.86, 1.36),p=0.520
 3Mth - 2Yr: HR=1.44 (1.16, 1.78),p<0.001
 2Yr+: HR=1.97 (1.75, 2.21),p<0.001

Ceramic/XLPE vs Metal/XLPE
 Entire Period: HR=1.01 (0.96, 1.07),p=0.665

Metal/Metal >32mm vs Metal/XLPE
 0 - 2Wk: HR=1.30 (0.98, 1.73),p=0.068
 2Wk - 1Mth: HR=0.49 (0.33, 0.72),p<0.001
 1Mth - 3Mth: HR=0.86 (0.65, 1.14),p=0.298
 3Mth - 9Mth: HR=1.13 (0.88, 1.45),p=0.345
 9Mth - 1.5Yr: HR=2.63 (2.22, 3.12),p<0.001
 1.5Yr - 2Yr: HR=4.26 (3.52, 5.17),p<0.001
 2Yr - 2.5Yr: HR=6.00 (5.02, 7.16),p<0.001
 2.5Yr - 6Yr: HR=9.61 (8.94, 10.33),p<0.001
 6Yr - 6.5Yr: HR=8.40 (6.87, 10.26),p<0.001
 6.5Yr - 8Yr: HR=7.96 (6.98, 9.06),p<0.001
 8Yr - 9.5Yr: HR=5.30 (4.57, 6.15),p<0.001
 9.5Yr+: HR=4.91 (4.26, 5.67),p<0.001

Metal/Metal <=32mm vs Metal/XLPE
 Entire Period: HR=1.35 (1.21, 1.50),p<0.001

Metal/Non XLPE vs Metal/XLPE
 0 - 1Mth: HR=0.75 (0.64, 0.88),p<0.001
 1Mth - 6Mth: HR=0.94 (0.81, 1.09),p=0.381
 6Mth - 1.5Yr: HR=1.42 (1.24, 1.62),p<0.001
 1.5Yr - 2.5Yr: HR=1.15 (0.97, 1.37),p=0.114
 2.5Yr - 6Yr: HR=1.60 (1.45, 1.77),p<0.001
 6Yr - 11Yr: HR=1.95 (1.78, 2.14),p<0.001
 11Yr+: HR=2.49 (2.19, 2.84),p<0.001

Ceramicised Metal/XLPE vs Metal/XLPE
 0 - 3Mth: HR=1.10 (0.96, 1.27),p=0.150
 3Mth+: HR=0.67 (0.60, 0.76),p<0.001

Number at Risk	0 Yr	1 Yr	3 Yrs	5 Yrs	10 Yrs	15 Yrs	17 Yrs
Ceramic/Ceramic	84474	77231	62436	46826	17521	3296	241
Ceramic/Non XLPE	6793	6109	5073	4348	2988	1148	294
Ceramic/XLPE	61666	48568	29420	17839	4281	387	14
Metal/Metal >32mm	14421	14062	13217	11975	5535	134	18
Metal/Metal <=32mm	5146	5022	4823	4560	3239	1012	78
Metal/Non XLPE	34837	33475	30998	28111	18122	5619	821
Metal/XLPE	143028	127659	99169	72445	22917	2163	81
Ceramicised Metal/XLPE	20327	17783	13367	9350	2855	0	0

Note: Only bearing surfaces with over 500 procedures have been listed

Data has been sourced from the Australian Orthopaedic Association National Joint Replacement Registry Annual Report. Adelaide: AOA: 2018. Tables have been reproduced in exact and complete form. For a full copy of the AOA National Joint Replacement Registry report, see aoanjrr.sahmri.com/annual-reports-2018.

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

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