

Australian Registry Results 2017

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 2016.

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 – 96.6%
- 18,177 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 | 10 Yrs | 15 Yrs | 16 Yrs |
|----------------------------|--------------|---------------|----------------|----------------|----------------|------------------|-------------------|-------------------|
| Ceramic/Ceramic | 2758 | 78674 | 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, 7.7) | 7.3 (6.9, 7.8) |
| Ceramic/Non XLPE | 429 | 6288 | 1.8 (1.5, 2.2) | 3.0 (2.6, 3.5) | 3.7 (3.3, 4.3) | 7.0 (6.2, 7.8) | 11.9 (10.7, 13.2) | 13.1 (11.6, 14.7) |
| Ceramic/XLPE | 1276 | 49627 | 1.6 (1.5, 1.8) | 2.5 (2.3, 2.7) | 3.1 (2.9, 3.3) | 4.5 (4.1, 4.8) | 5.1 (4.6, 5.7) | |
| Ceramic/Metal | 18 | 299 | 1.7 (0.7, 4.0) | 3.7 (2.1, 6.6) | 4.4 (2.6, 7.4) | | | |
| Metal/Metal | 347 | 5146 | 1.6 (1.3, 1.9) | 3.3 (2.9, 3.9) | 4.4 (3.8, 5.0) | 6.5 (5.8, 7.2) | 8.7 (7.7, 9.7) | 9.1 (8.0, 10.4) |
| Metal/Non XLPE | 2310 | 34593 | 1.4 (1.3, 1.5) | 2.4 (2.3, 2.6) | 3.4 (3.2, 3.6) | 6.3 (6.1, 6.6) | 10.5 (10.1, 11.0) | 11.3 (10.7, 11.9) |
| Metal/XLPE | 3999 | 131327 | 1.6 (1.5, 1.6) | 2.3 (2.2, 2.4) | 2.9 (2.8, 3.1) | 4.4 (4.3, 4.6) | 6.3 (5.8, 6.7) | 6.3 (5.8, 6.7) |
| Ceramicised Metal/Non XLPE | 36 | 290 | 1.7 (0.7, 4.1) | 3.9 (2.2, 6.9) | 4.3 (2.4, 7.4) | 12.5 (8.9, 17.5) | | |
| Ceramicised Metal/XLPE | 426 | 18177 | 1.6 (1.4, 1.7) | 2.0 (1.8, 2.3) | 2.3 (2.1, 2.6) | 3.4 (3.0, 3.8) | | |
| TOTAL | 11599 | 324421 | | | | | | |

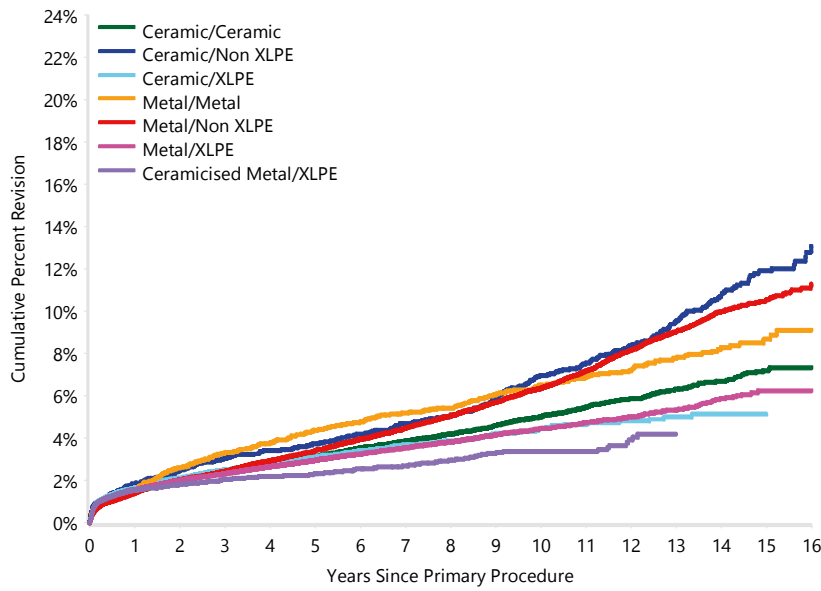
Note: Excludes 197 procedures with unknown bearing surface, one procedure with ceramicised metal/ceramic bearing surface and eight procedures with metal/ceramic bearing surface
All procedures using metal/metal prostheses with head size larger than 32mm have been excluded

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 (AOANJRR). Hip, Knee & Shoulder Arthroplasty: 2017 Annual Report. Adelaide: AOA, 2017. Tables have been reproduced in exact and complete form.

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=1.04 (0.99, 1.09),p=0.165 |
| Ceramic/Non XLPE vs Metal/XLPE | 0 - 3Yr: HR=1.30 (1.12, 1.51),p<0.001 3Yr - 5Yr: HR=1.03 (0.73, 1.47),p=0.853 5Yr - 9Yr: HR=1.66 (1.33, 2.08),p<0.001 9Yr+: HR=2.83 (2.34, 3.43),p<0.001 |
| Ceramic/XLPE vs Metal/XLPE | 0 - 3Yr: HR=1.07 (1.00, 1.15),p=0.046 3Yr+: HR=0.83 (0.72, 0.95),p=0.006 |
| Metal/Metal vs Metal/XLPE | Entire Period: HR=1.36 (1.21, 1.52),p<0.001 |
| Metal/Non XLPE vs Metal/XLPE | 0 - 1Mth: HR=0.76 (0.64, 0.89),p=0.001 1Mth - 6Mth: HR=0.98 (0.84, 1.14),p=0.762 6Mth - 1Yr: HR=1.36 (1.13, 1.64),p=0.001 1Yr - 5Yr: HR=1.37 (1.26, 1.50),p<0.001 5Yr - 7Yr: HR=1.67 (1.45, 1.91),p<0.001 7Yr - 9Yr: HR=1.90 (1.64, 2.21),p<0.001 9Yr+: HR=2.46 (2.18, 2.77),p<0.001 |
| Ceramicised Metal/XLPE vs Metal/XLPE | 0 - 1Yr: HR=1.03 (0.91, 1.17),p=0.627 1Yr+: HR=0.56 (0.47, 0.66),p<0.001 |

| Number at Risk | 0 Yr | 1 Yr | 3 Yrs | 5 Yrs | 10 Yrs | 15 Yrs | 16 Yrs |
|------------------------|--------|--------|-------|-------|--------|--------|--------|
| Ceramic/Ceramic | 78674 | 70863 | 55391 | 40220 | 14612 | 1355 | 254 |
| Ceramic/Non XLPE | 6288 | 5678 | 4808 | 4179 | 2835 | 779 | 317 |
| Ceramic/XLPE | 49627 | 38561 | 23126 | 14232 | 3208 | 137 | 17 |
| Metal/Metal | 5146 | 5023 | 4779 | 4500 | 2907 | 478 | 82 |
| Metal/Non XLPE | 34593 | 33199 | 30698 | 27752 | 17001 | 3096 | 891 |
| Metal/XLPE | 131327 | 115680 | 88000 | 62862 | 18396 | 721 | 86 |
| Ceramicised Metal/XLPE | 18177 | 15762 | 11498 | 7709 | 2123 | 0 | 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.