

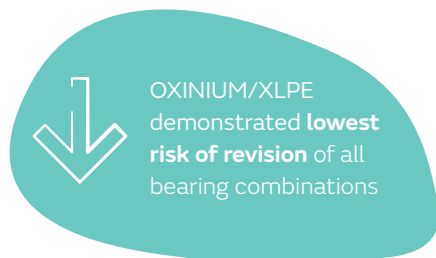
+ Evidence in focus

Publication summary: Davis E, et al. *JBJS OA* (2020)*

Smith+Nephew

OXINIUM[◇]/XLPE (VERILAST[◇] Technology) shown to be the best performing bearing at 10 years in an analysis of primary total hip replacement (THR) data from the UK NJR

+ Plus points

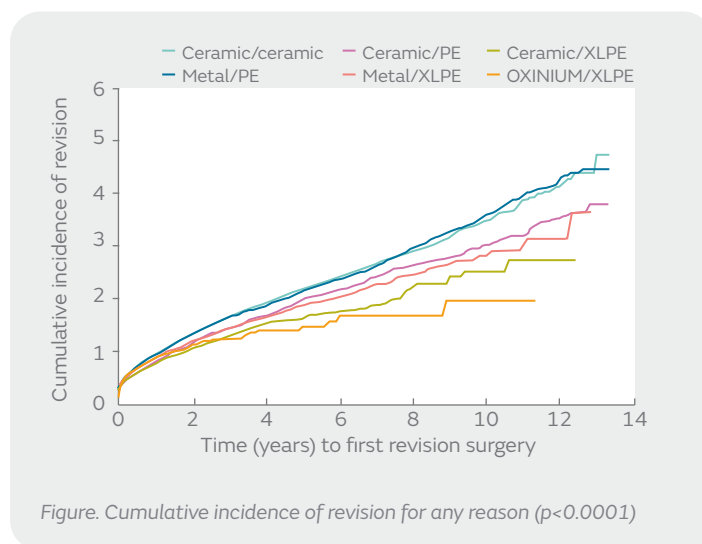


Overview

- An analysis of survivorship of bearing combinations in THR using uncemented acetabular components reported in the NJR:
 - OXINIUM/XLPE (ceramicised metal on XLPE; n=9,237)
 - Ceramic/XLPE (n=66,116)
 - Ceramic/PE (n=17,816)
 - Ceramic/ceramic (n=128,345)
 - Metal/XLPE (n=134,088)
 - Metal/PE (n=64,737)
- Bearing usage between January 2004 and July 2016
- 420,339 primary THRs with 8,025 revisions
- Primary endpoint: revision of one or more components for any reason
- Secondary endpoints: revision for any reason in patients aged <55 years and cause-specific reasons for revision of one or more components

Results

- OXINIUM/XLPE had the lowest cumulative incidence of revision for any reason of all bearing combinations analysed at 10 years (1.96%) followed by ceramic/XLPE (2.52%, Figure)
- Compared to all bearing combinations analysed, OXINIUM/XLPE had the lowest cumulative incidence of revision for any reason in THR patients aged <55 years at time of procedure
 - 53% reduction in revision rate versus metal/PE



Conclusions

OXINIUM/XLPE followed by ceramic/XLPE were associated with the lowest risk of revision at 10 years for any reason. This analysis confirms a significant effect of modern bearing surface combinations on THR survival and corroborates data from the Australian Orthopaedic Association National Joint Registry (AOANJRR) and the Dutch Arthroplasty Register (LROI).

Citation

*Davis ET, Pagkalos J, Kopjar B. Bearing surface and survival of cementless and hybrid total hip arthroplasty in the National Joint Registry of England, Wales, Northern Ireland and the Isle of Man. *JBJS OA*. 2020;5:e0075. Available from: [JBJS OA](https://doi.org/10.2196/jbjs.2019.0100)

Abbreviations

NJR, National Joint Registry for England, Wales, Northern Ireland and the Isle of Man; PE, conventional polyethylene (irradiation dose of <5 Mrad); THR, total hip replacement; XLPE, highly crosslinked polyethylene (crosslinked with irradiation dose of ≥ 5 Mrad)