

Long-term survivorship for the CORAIL®/PINNACLE® hip system was generally >95% across peer-reviewed articles and joint registries, concordant with UK national guidelines for hip prostheses

Introduction

A systematic review (SR) identified six registry reports and seven peer-reviewed articles which described survivorship of the CORAIL/PINNACLE hip system or the CORAIL stem with various cups. Data were compared with the 2014 National Institute for Health and Care Excellence (NICE) guidance on hip prostheses which indicates that prostheses should only be recommended if survivorship is (or is projected to be) $\geq 95\%$ at ten years¹.

Survivorship data is summarised here.

Results

Registry reports

Registry reports from Australia and the UK in 2013^{2,3}, and Denmark in 2012⁴ describe five year survivorship >95% for the CORAIL/PINNACLE hip system. Ten year survivorship measured in the Danish registry was 95.4%. The CORAIL/DURALOC® system was associated with slightly better survivorship at five years in the Australian and UK registries (97.1% and 97.7%, respectively). In the Australian registry, ten year survivorship of 95.2% was reported for the CORAIL/DURALOC system. Six year survivorship was reported in the Slovakian registry with the CORAIL/PINNACLE hip system performing slightly better than the CORAIL/DURALOC system (99.5% vs 98.7%, respectively)⁵. Please note: Since the completion of the systematic review updated Annual Reports have been published by the UK, Australian and Slovakian national joint registries. The data contained in these reports has been reviewed and are consistent with the data reported above.⁶

Peer-reviewed articles

Two studies^{7,8} reported on survivorship of the CORAIL/PINNACLE hip system with end point revision for any cause. One study reported three year survivorship of 99.5%⁷, and in the second eight year survivorship was 99.0%⁸.

A further five studies were identified on the CORAIL stem with various cups and reported on survivorship with end point revision for any cause. Twelve year survivorship >96% was reported in two studies (99.1% and 96.8%, respectively)^{9,10}. In one study 15 year

survivorship of 97.6% was reported¹¹. In the remaining two studies, eight year survivorship of 93.3%¹² and survivorship <90% at 15, 18, 20 and 23 years¹³ were reported. However, in both studies, when the end point of stem only revision was assessed, survivorship >96% was reported, indicating low revision rates for the CORAIL stem.

Discussion

The CORAIL stem and PINNACLE cup generally demonstrated high long-term (>10 years) survivorship when implanted in combination or with other prosthesis systems. Survivorship reported across the peer-reviewed literature was consistent with registry data and in line with 2014 NICE guidance on hip prostheses¹.

In studies implanting the cementless CORAIL/PINNACLE hip system, survivorship of 99.5% after short-term (three years) follow-up and 99.0% after medium-term (eight years) follow-up were consistently greater than survivorship reported after three and eight years for cemented prostheses in the 2013 National Joint Registry for England, Wales and Northern Ireland (ranging from 99.3% to 98.8% and 96.9% to 98.5%, respectively)³.

Conclusion

The results of the SR indicate that the CORAIL stem and PINNACLE cup (used in combination or with other implants for THA) are generally considered good/excellent. Registries and peer-reviewed articles generally report survivorship >95% after 10 years, which is consistent with the benchmark set in the 2014 National Institute for Health and Care Excellence (NICE) guidelines on hip prostheses¹. These data indicate that the CORAIL/PINNACLE hip system is forgiving, tolerant of surgical experience, patient selection and regional variations. Long-term survivorship >95% in the peer-reviewed article supports the long-term effectiveness of the CORAIL stem. The SR shows that both the CORAIL stem and PINNACLE cup have good fixation with low revision rates over medium and long-term periods, and both are flexible systems with performance maintained irrespective of prostheses configuration.

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