Using the Corail® Pinnacle® Total Hip Replacement System Could Reduce the Financial and Healthcare Burden Associated with Revision Hip Arthroplasty

Total hip arthroplasty (THA) is one of the most successful operations worldwide and is recognised as a highly cost effective intervention providing improvements in pain and quality of life.\(^1,2\) The demand for arthroplasty has increased over the last ten years and has been shown to be insensitive to economic downturns in the United States.\(^3\)

In 2010 in the US the total costs for hip and knee arthroplasty surgery combined exceeded 19 billion USD and the demand is expected to increase 174% by 2030.\(^2\) This upward trend is also reported in several other countries. A paper by Patel et al (2015) estimates a 134% demand increase in the UK whilst the predicted incidence of THA for a Swedish citizen aged ≥ 40 years will increase from 332 per 100 000 people to 784 per 100 000 by 2030.\(^3\)

Despite the success of THA, the number of revision THA procedures has increased. This effect is multi-factorial and is driven by a combination of higher absolute numbers, an expansion of indications to include younger and more active patients, and an increased prevalence of obesity.\(^4\)

Over the last five years there has been a reported 49% rise in revision THA, and with 35% of hip and knee replacements now carried out in patients below the age of 65, and 12% below the age of 55, this revision burden could grow significantly.\(^5\)

Several studies have illustrated the use of hospital resources and the cost of surgery are substantially greater for revision procedures than primary joint arthroplasty. In the UK in 2000 it was reported that the average cost of a revision THA ranged from £11,897 to £21,937 dependent on the nature of the procedure and the annual cost associated with revision surgery of the hip and knee exceeded £60 Million.\(^6\)

These higher costs combined with growing patient volume may increase the pressure on hospitals, wider healthcare spending and waiting times.\(^9\)

Using a proven, robust construct design with a strong supportive evidence base can potentially help reduce revision risk and the associated cost burden. The existing evidence highlights the excellent long-term stability and durability of the Corail stem and Pinnacle acetabular cup.

• Corail Pinnacle is the most widely used single company cementless construct in several registries including Australia and the UK.\(^7,8\) There are over 152,000 documented cases included on registries worldwide with recorded survivorship up to 97.19% and 95.1% at ten years in the UK (Table 1) and Australian registries respectively.\(^7,8\) These robust registry results illustrate Corail Pinnacle delivers excellent clinical results with a broad surgeon and hospital user base.

• Independent published evidence demonstrates the Corail Pinnacle hip construct performs well and can be used in multiple indications as well as standard cases, including: complex primary cases and fractured neck of femurs.\(^10-14\) Corail Pinnacle has also demonstrated successful performance in young and high demand patients.\(^15,16\)

• Corail and Pinnacle have both been granted 10A\(^*\) ratings by the Orthopedic Data Evaluation Panel (ODEP).\(^17\)

• With its comprehensive and high quality evidence base, surgeons and providers can be confident they are using a proven construct that has the potential to limit the cost burden associated with revision hip arthroplasty.

<table>
<thead>
<tr>
<th>Combination</th>
<th>Implantations</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoC</td>
<td>35,092</td>
<td>1.78% (1.64%-1.94%)</td>
<td>2.38% (2.20%-2.57%)</td>
<td>4.00% (3.38%-4.74%)</td>
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<tr>
<td>CoP</td>
<td>16,320</td>
<td>1.26% (1.07%-1.48%)</td>
<td>1.90% (1.61%-2.24%)</td>
<td>2.81% (2.13%-3.72%)</td>
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<tr>
<td>MoP</td>
<td>42,469</td>
<td>1.42% (1.30%-1.55%)</td>
<td>1.77% (1.62%-1.93%)</td>
<td>3.16% (2.72%-3.66%)</td>
</tr>
</tbody>
</table>

Blue italics signify that fewer than 250 cases remained at risk at these timepoints.

References


17. Orthopedic Data Evaluation Panel (ODEP) Available at: www.odep.org.uk.

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