

POLARSTEM<sup>◇</sup> with R3<sup>◇</sup> is the best performing stem-cup combination in the world's largest national joint registry<sup>1</sup>



As the demand for total hip arthroplasty (THA) continues to grow due to an aging population, longer and more active lives and a propensity to treat younger patients, so too does the incidence of THA revisions.<sup>2,3</sup>

Patients who undergo revision THA often have increased intra-operative technical difficulties, post-operative complications and poorer outcomes requiring higher resource utilisation than primary THA.<sup>4-6</sup> Strategies to reduce the clinical and economic burden of revision THA could include the use of primary implants with lower cumulative revision rates.<sup>3,4</sup>

**POLARSTEM in combination with R3 has demonstrated the highest survivorship at 7 years regardless of fixation method<sup>1</sup>**

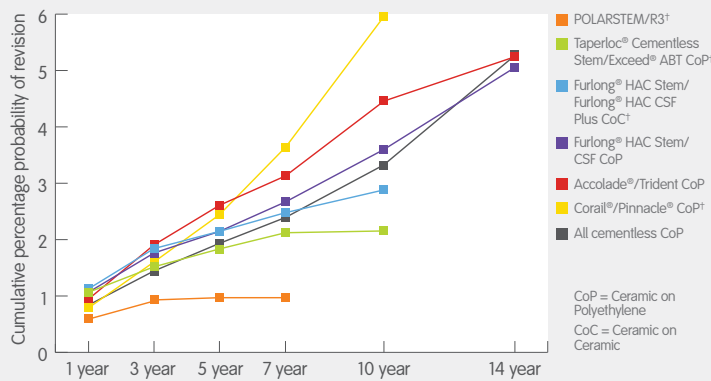
Highest survivorship



**99.03%**

for any cup-stem combination regardless of fixation method<sup>1</sup> (n=8,543)

Cumulative revision rates for the six most implanted cementless THA prostheses by best performing bearing combinations<sup>1</sup>



<sup>†</sup>Data beyond seven and 10 years not available



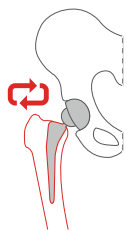
**POLAR3<sup>◇</sup> demonstrated a significant reduction in revision (all reasons) compared to all cementless stems at 7 years**

**43%**

p<0.001 (n=7,708)<sup>7</sup>

**POLARSTEM Cementless Femoral Component: NJREW Implant Summary Report<sup>8</sup>**

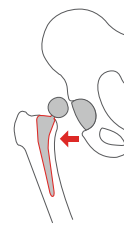
At 8 years, compared to class average (all bearing types), POLARSTEM demonstrated:



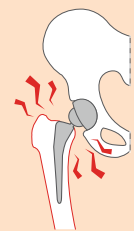
**49%** reduction in femoral revisions – all reasons (p<0.001)<sup>8</sup>



**67%** reduction in stem aseptic loosening (p<0.001)<sup>8</sup>



**34%** reduction in dislocation/subluxation (p=0.03)<sup>8</sup>



**54%** reduction in revisions caused by pain (p=0.002)<sup>8</sup>

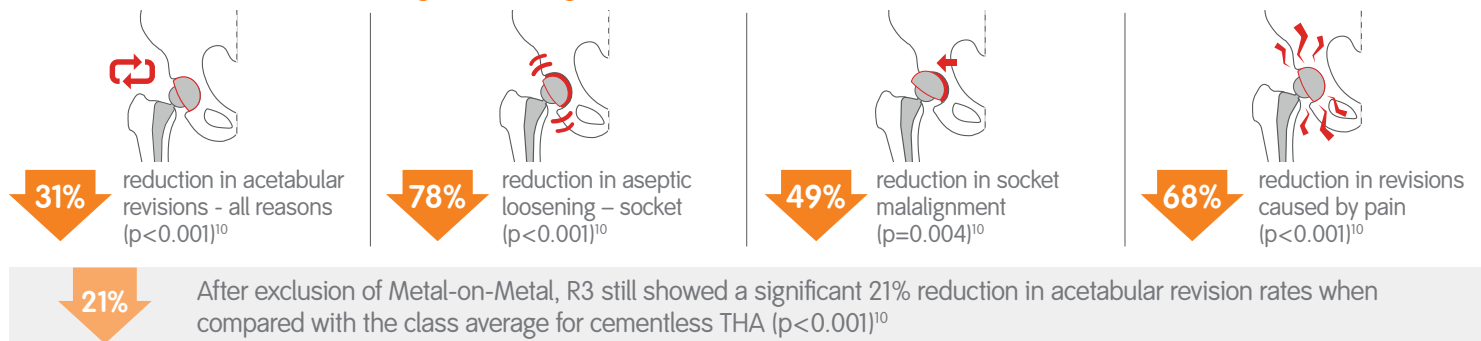
A reduction in pain has been shown to correlate with increased patient satisfaction<sup>9</sup>

**41%**

After exclusion of Metal-on-Metal, POLARSTEM still showed a significant 41% reduction in femoral revision rates when compared with the class average for cementless THA (p<0.001)<sup>8</sup>

## R3° Cementless Acetabular Component: NJREW Implant Summary Report<sup>10</sup>

At 8 years, compared to class average (all bearing types), R3 demonstrated:



### Results from recent studies support the stand-out survivorship trends seen in the NJREW



Assaf et al, 2018<sup>11</sup>  
**99.2% implant survivorship at 7 years (n=114)**



Cypres et al, 2018<sup>12</sup>  
**99.1% stem survivorship at 10 years (n=502)**



Teoh et al, 2018<sup>13</sup>  
**98.89% cup survivorship at 5 years (n=293)**

POLARSTEM® and R3 uncemented THA has demonstrated safety comparable to hybrid THA in an elderly patient cohort<sup>14</sup>

## POLAR3°: Different by design

The unique design features of POLARSTEM, R3 and VERILAST® may translate into the clinical benefits reported in the registry

<p><b>POLARSTEM</b> Cementless Stem System</p>  <p><b>15 years</b> of clinical heritage</p> <ul style="list-style-type: none"> <li>• 7A* ODEP rating<sup>15</sup></li> <li>• &gt;250,000 implantations</li> </ul>	<p><b>R3</b> Acetabular System</p>  <p><b>11 years</b> of clinical heritage</p> <ul style="list-style-type: none"> <li>• 10A* ODEP rating<sup>15</sup></li> <li>• &gt;1 million implantations</li> </ul>	<p><b>VERILAST</b> Technology for Hips</p>  <p><b>14 years</b> of clinical heritage</p> <ul style="list-style-type: none"> <li>• &gt;1 million OXINIUM® component implantations</li> </ul>
<p><b>Unique design</b></p> <p>The triple taper, self-locking POLARSTEM has been designed with a reinforced proximal body to help achieve excellent proximal stability<sup>16-18</sup></p> <p>The shortened stem length and narrow distal tip is designed to allow for ease of implantation through any surgical approach<sup>19,20</sup></p> <p><b>Advanced coating</b></p> <p>The stem design incorporates the advanced surface roughness of Titanium Plasma spray with a hydroxyapatite coating</p>	<p><b>STIKTITE® stability</b></p> <p>When compared with more traditional porous coatings, STIKTITE coating has greater porosity providing a higher coefficient of friction for an immediate 'scratch-fit' feel and the potential for better initial implant fixation<sup>21,22</sup></p> <p>Improved initial fixation limits micromotion potentially enhancing bony ingrowth<sup>22</sup></p>	<p><b>Excellent wear performance</b></p> <p>The exclusive combination of OXINIUM oxidized zirconium alloy and highly cross-linked polyethylene has excellent wear performance in laboratory and clinical studies<sup>23-26</sup></p> <p><b>Low levels of taper corrosion</b></p> <p>OXINIUM implants have been shown to undergo substantially lower levels of taper corrosion compared to metal femoral heads<sup>27,28</sup></p> <p><b>Biocompatibility</b></p> <p>OXINIUM contains very low levels of the metals nickel, cobalt and chromium compared to cobalt chromium molybdenum implants<sup>29,30</sup></p>

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