Clinical Data
Launched in 2005, the C-STEM® AMT has been provided to patients in over 100,000 total hip replacements Worldwide with 50,000 in the UK alone.6

In 2017 the C-STEM AMT Total Hip System was awarded an ODEP 10A* rating by the Orthopaedic Data Evaluation Panel.7

C-STEM AMT and MARATHON Cemented Cup is shown to have a 98.64% survival rate at 7 years in over 8,100 cases.3 In combination with the PINNACLE Cementless Cup it is shown to have a 96.21% survival rate at 10 years in over 10,000 cases.3

### Combination Implantations Year 1 Year 3 Year 5 Year 7 Year 10

<table>
<thead>
<tr>
<th>Combination</th>
<th>Implantations</th>
<th>Year 1</th>
<th>Year 3</th>
<th>Year 5</th>
<th>Year 7</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-STEM AMT Cemented Stem/MARATHON</td>
<td>8,111</td>
<td>0.43 (0.30-0.61)</td>
<td>0.94 (0.71-1.24)</td>
<td>1.22 (0.89-1.68)</td>
<td>1.36 (0.96-1.93)</td>
<td>-</td>
</tr>
<tr>
<td>C-STEM AMT Cemented Stem/PINNACLE</td>
<td>10,027</td>
<td>0.70 (0.55-0.89)</td>
<td>1.22 (0.99-1.49)</td>
<td>1.75 (1.42-2.16)</td>
<td>2.23 (1.76-2.83)</td>
<td>3.79 (2.81-5.52)</td>
</tr>
</tbody>
</table>

National Joint Registry for England, Wales, Northern Ireland and the Isle of Man. Revision rates (all-cause) for main hip stem and cup combinations (95% confidence intervals).

Note: Blue italics signify that fewer than 250 cases remained at risk at these time points.

C-STEM AMT and MARATHON Cemented Cup are shown to have a 94.3% survival rate at 10 years in more than 3,000 cases.8

### Combination Implantations Year 1 Year 3 Year 5 Year 10

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</tr>
</thead>
<tbody>
<tr>
<td>C-STEM AMT Cemented Stem/PINNACLE</td>
<td>3,025</td>
<td>1.3 (0.9-1.8)</td>
<td>2.4 (1.8-3.1)</td>
<td>3.1 (2.4-4.1)</td>
<td>5.7 (3.6-8.8)</td>
</tr>
</tbody>
</table>

Extracted from Table HT13. Australian Orthopaedic Association National Joint Replacement Registry. Cumulative Percent Revision of Primary Total Conventional Hip Replacement with Hybrid Fixation (95% confidence intervals).

C-STEM AMT, used in combination with the PINNACLE cementless cup is shown to have a 94.3% survival rate at 10 years in more than 3,000 cases.8

Pinnacle

99.2% survivorship at 10 years8

- With nearly 15 years clinical use the PINNACLE® Acetabular Cup System is DePuy Synthes’ premium Acetabular System.
- PINNACLE Acetabular Cup System offers surgeons the ability to address existing pathologies whilst choosing from MARATHON® or ALTIX® cross linked polyethylene or CERAMAX™ Ceramic Liners.
- 10 years data in combination with C-STEM AMT Stem in the NJR with a survival rate of 96.21%8

94.3%8

C-STEM AMT, used in combination with the PINNACLE cementless cup is shown to have a 94.3% survival rate at 10 years in more than 3,000 cases.8

Marathon

No failures at 5 years11

- Introduced in 2008, MARATHON Cemented Cups utilise the cross linked polyethylene successfully used for over 10 years as a modular liner in the DURALOC® and PINNACLE Acetabular Systems.5,12
- MARATHON® Cross-Linked Polyethylene has been shown to be significantly more resistant to wear compared to non-crosslinked polyethylene - in 41 cases, Stone et al (2014) achieved 100% survivorship at 5.2 years with 83% reduction in wear versus ENDURON® POLYETHYLENE.11
- The fixation features and bearing surface geometry of the MARATHON Cemented Cup are the same as the LPW version of the CHARNLEY® Ogee, CHARNLEY & ELITE PLUS Ogee Cups.

98.96% survivorship at 14 years1

- The original C-STEM® Implant established a tapered slip stem that not only worked with the bone cement mantle, but was also designed to produce positive proximal bone remodelling due to more anatomic stress distribution.2
- C-STEM & ELITE PLUS Ogee® Cemented Cup are shown to have a 97.37% survival rate at 10 years in over 5,100 cases2
- In their patient series follow up, Sochart et al. (2009) noted “there was no evidence of negative bone modelling”, which is an issue seen with other cemented stems.4

99.2% survivorship at 10 years5

- The C-STEM AMT builds upon the clinical heritage of the original C-STEM Hip and its specific triple tapered, highly polished design. The functional intra-medullary geometry of original C-STEM Stem has been maintained whilst the extra-medullary geometry has been enhanced with a raised lateral shoulder, designed to improve visualization during insertion, and the addition of the 12/14 ARTICUL/EZE™ mini-taper.
- Berstock et al (2014) followed 415 C-STEM AMT Hips in 386 patients for 5-8 years. There were only 2 femoral stem revisions, both for infection, and the Kaplan-Meier survivorship at 99 months was 96.9%.5
- Flatoy et al (2015) followed 70 hips using C-STEM AMT and MARATHON Cemented Cups utilising RSA analysis. At 2 years follow up, there were no revisions and authors concluded that the C-Stem AMT Stem displayed a pattern of migration and bone remodeling that predicts good clinical performance.10

96.9% survivorship at 99 months9

- The fixation features and bearing surface geometry of the MARATHON Cemented Cup are the same as the LPW version of the CHARNLEY® Ogee, CHARNLEY & ELITE PLUS Ogee Cups.
References


6. C-Stem Sales Year 2005 to Year 2018 data on file DePuy Synthes.


Table HT13  Cumulative Percent Revision of Primary Total Conventional Hip Replacement with Hybrid Fixation

<table>
<thead>
<tr>
<th>Femoral Component</th>
<th>Acetabular Component</th>
<th>N Revised</th>
<th>N Total</th>
<th>1 Yr</th>
<th>3 Yrs</th>
<th>5 Yrs</th>
<th>7 Yrs</th>
<th>10 Yrs</th>
<th>15 Yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Stem AMT</td>
<td>Pinnacle</td>
<td>69</td>
<td>3025</td>
<td>1.3 (0.9, 1.8)</td>
<td>2.4 (1.8, 3.1)</td>
<td>3.1 (2.4, 4.1)</td>
<td>5.7 (3.6, 8.8)</td>
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