DePuy Synthes

PART OF THE Johnson&Johnson FAMILY OF COMPANIES

C-Stem™ AMT

This publication is not intended for distribution in the USA.

CLINICAL DATA

MARATHON™
CROSS-LINKED POLYETHYLENE

No failures
at 5 years[7]

- 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.[5,8]
- 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 achieved 100% survivorship at 5.2 years with 83% reduction in wear versus ENDURON™.[7]
- The fixation features and bearing surface (bore) geometry of the MARATHON Cemented Cup are the same as the LPW version of the CHARNLEY® OGEE, CHARNLEY & ELITE PLUS OGEE CUPS.

C-STEM™
TOTAL HIP SYSTEM

98.96%
survivorship at 14 years[1]

- 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 is shown to have a 97.2% survival rate at 12 years in over 4,700 cases[3]
- Sochart et al in 2009 noted that in their patient series follow up they noticed "There was no evidence of negative bone remodelling" which is an issue seen with other cemented stems.[4]

ELITE™ PLUS

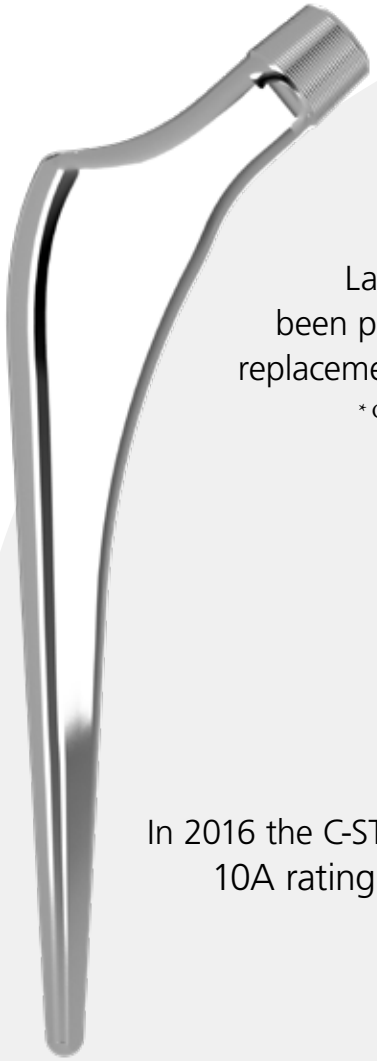
97.2%
survivorship at 12 years[3]

- Uses ENDURON UHMWPE material unchanged since launch in 1994 with excellent clinical survivorship.[2]
- Available in 5 Outer Diameters 40 mm / 43 mm / 47 mm /50 mm / 53 mm in Unflanged LPW, Flanged LPW and OGEE LPW designs for 28 mm and 32 mm head sizes.
- Design and fixation features same as the successful CHARNLEY LPW range of cemented cups.

PINNACLE®
HIP SOLUTIONS

99.2%
survivorship at 10 years[5]

- 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 ALTRX™ cross linked polyethylene or CERAMAX™ ceramic liners.
- 10 years data in combination with the original C-STEM (95.6% at 10 years) in the AOANJRR[6] and 10 year data with C-STEM AMT in the NJR.[3]



C-Stem™ AMT

Launched in 2005* the C-STEM AMT has been provided to patients in over 85,000 total hip replacements Worldwide with 41,000 in the UK alone.[9]

* C-STEM AMT standard and high offset stems launched in 2005.

In 2016 the C-STEM AMT Total Hip System was awarded an ODEP 10A rating by the Orthopaedic Data Evaluation Panel.[10]

98.65%[3]

C-STEM AMT AND MARATHON™ cemented cup is shown to have a 98.65% survival rate at 7 years in over 4,400 cases.[3] In combination with the PINNACLE cementless cup it is shown to have a 95.36% survival rate at 10 years in over 5,800 cases.[3]

Combination	Implantations	Year 1	Year 3	Year 5	Year 7	Year 10
C-STEM AMT Cemented Stem/ MARATHON	4,414	0.45 (0.28-0.73)	0.94 (0.61-1.45)	*1.35 (0.79-2.32)*	*1.35 (0.79-2.32)*	-
C-STEM AMT Cemented Stem/ PINNACLE	5,863	0.75 (0.55-1.02)	1.14 (0.86-1.50)	1.89 (1.41-2.53)	2.23 (1.61-3.07)	*4.64 (2.68-7.97)*

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

96.4%[6]

C-STEM AMT, used in combination with the PINNACLE cementless cup is shown to have a 96.4% survival rate at 7 years in more than 1,700 cases.[6]

Combination	Implantations	Year 1	Year 3	Year 5	Year 7
C-STEM AMT Cemented Stem/ PINNACLE	1,731	0.9 (0.5-1.4)	2.2 (1.5-3.2)	2.9 (2.0-4.1)	3.6 (2.4-5.4)

Extracted from Table HT15. Australian Orthopaedic Association National Joint Replacement Registry.
Cumulative Percent Revision of Primary Total Conventional Hip Replacement with Hybrid Fixation (95% confidence intervals).

References

1. Wroblewski BM, et al. The C-Stem in Clinical Practice, Fifteen-Year Follow-Up of a Triple Tapered Polished Cemented Stem. J.Arthroplasty. 2013; 28: 1367-1371
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4. Sochart D,H. et al. Results of the C-STEM polished triple tapered femoral component. JBJS Br 2010; 92-B:SUPP I 99
5. Callaghan J,J. et al. Fixation and Wear With a Contemporary Acetabular Component and Cross-Linked Polyethylene at Minimum 10-Year Follow-Up. JOA 2014; 29: 1961-69
6. Australian Orthopaedic Association National Joint Replacement Registry. Annual Report. Adelaide: AOA; 2016. Available from URL: https://aoanjrr.sahmri.com/annual-reports-2016. Extracted from Table HT15.

Table HT15 Cumulative Percent Revision of Primary Total Conventional Hip Replacement with Hybrid Fixation

Femoral Component	Acetabular Component	N Revised	N Total	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs
C-Stem AMT	Pinnacle	34	1731	0.9 (0.5, 1.4)	2.2 (1.5, 3.2)	2.9 (2.0, 4.1)	3.6 (2.4, 5.4)		

7. Stone M, et al. Wear Rate Analysis of Cemented Cross-Linked Polyethylene (Marathon) Acetabular Cups at Five Years. EHS 2014. Stockholm Poster No: P032.
8. Engh CA Jr, Stepniewski AS, Ginn SD, Beykirch SE, Sychterz-Terefenko CJ, Hopper RH Jr, Engh CA. "A randomized prospective evaluation of outcomes after total hip arthroplasty using cross-linked marathon and non-cross-linked Enduron polyethylene liners." J Arthroplasty 2006;21(6 Suppl 2):17-25.
9. C-Stem Sales Year 2005 to Year 2016 data on file DePuy Synthes.
10. Orthopaedic Data Evaluation Panel. ODEP product ratings. Latest ODEP ratings can be found at www.odep.org.uk [Accessed 01/10/2016].

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