

EARLY RESULTS CONFIRM

# Clinical and Economic Value of the ATTUNE® Knee System

## Comprehensive Evidence Generation



The ATTUNE® Knee System represents the **largest research and development project in the history of DePuy Synthes**, backed by a comprehensive evidence generation program that encompasses clinical and patient reported outcomes as well as health economics studies.



## Positive Early Registry Results

The Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) and National Joint Registry for England, Wales, Northern Ireland and the Isle of Man (NJR) both publish annual reports with outcomes data at set intervals of one, three, five-year and beyond. However, additional implant survivorship data is now available more frequently to manufacturers who subscribe to the AOANJRR Automated Industry Report System (AIRS) and NJR Implant Summary Report services. The below data are from the most recent reports obtained by DePuy Synthes.<sup>1-3</sup>

### AOANJRR

**98.0%** ATTUNE CR Knee implant survivorship at four years.<sup>1</sup>

**98.2%** ATTUNE PS Knee implant survivorship at four years.<sup>2</sup>

This report indicates that the cemented CR ATTUNE Knee cumulative percent revision of 2.0% (95% CI: 1.6, 2.3%) at four years is **performing significantly better** than all other TKA in the AOANJRR (HR 0.65 (0.48, 0.87), p=0.003).<sup>1</sup>

The cemented PS ATTUNE Knee with a cumulative percent revision of 1.8% at four years (95% CI: 1.4, 2.4%) is **performing significantly better** than all other TKA in the AOANJRR (HR 0.61 (0.48, 0.78), p<0.001).<sup>2</sup>

The five year cumulative percent revision estimates for the CR ATTUNE Knee and PS ATTUNE Knee are based on a sample size of 78 and 143 patients, respectively.<sup>1,2</sup>

### NJR

**97.2%** Implant survivorship at five years.<sup>3</sup>

The **independent analysis** of 23,321 ATTUNE Knee implantations in the NJR Implant Summary Report, showed that the cumulative revision rate (CRR) for the ATTUNE Knee is 2.8% (95% CI: 2.1, 3.5%) at five years (97.2% implant survivorship at five years), which is in line with the overall class of total knee replacement of 2.2% (2.2, 2.2%) CRR at five years.<sup>3</sup> The 6 year estimated cumulative rate of revision for the ATTUNE Knee is currently based on a sample size of 83 patients.<sup>3</sup>

## Value-Based Healthcare: From Hospital to Home

**39% lower odds of patient discharge to a skilled nursing facility** for those patients implanted with an ATTUNE Knee, compared to those patients who received a TKA with a Triathlon® Knee, according to the results of a large U.S. hospital administrative database review.<sup>4</sup>

Going home following TKA vs. being discharged to a skilled nursing facility may potentially impact patient satisfaction and reduce health care costs.<sup>4</sup>



## Improvements in Patient Reported Outcomes

Results from two world wide studies showed improved point estimates of mean outcomes for PROMs and American Knee Society Score (AKS) were all equal or better for the ATTUNE Knee compared to a leading knee brand at both 1 and 2-years follow-up.<sup>5</sup> Four independent studies demonstrated improved patello-femoral outcomes, including reduced incidence of symptomatic crepitus when compared to the well performing SIGMA® Knee.<sup>6-9</sup>



**Confidence in knee performance<sup>5</sup>**



**Activities of daily living<sup>5</sup>**



**Quality of life<sup>5</sup>**



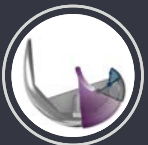
**Improved patellofemoral outcomes<sup>6-9</sup>**

## Innovative ATTUNE Knee Features Help Address Unmet Needs



### 60+ patents

in the U.S. granted for key inventions related to the ATTUNE Knee Implants and Instruments.



### ATTUNE GRADIUS™ Curve

Geometry of the curve is designed to address the unnatural sliding of the femur on the tibia, to provide smooth motion and stability during everyday activities.<sup>10</sup>



### GLIDERIGHT™ Articulation

Four independent studies demonstrated improved patello-femoral outcomes, including reduced incidence of symptomatic crepitus while maintaining optimal patella motion.<sup>6-9</sup>

# References

- 1 Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR), Automated Industry Report System (AIRS), ID No.823 for DePuy Synthes, ATTUNE CR/ATTUNE Total Knee, (Procedures from 1 September 1999 – 8 January 2019), Accessed 9 January 2019, AOA, Adelaide: 1-14.

Figure 1: Cumulative Percent Revision of Primary Total Knee Replacement by Model (All Diagnoses)

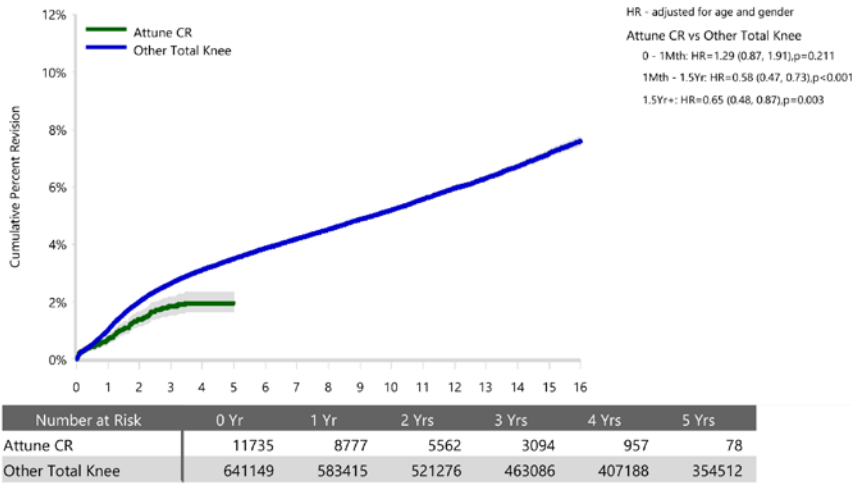


Table 11: Yearly Cumulative Percent Revision of Primary Total Knee Replacement by Model (All Diagnoses)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs
Attune CR	0.7 (0.6, 0.9)	1.4 (1.2, 1.6)	1.8 (1.5, 2.2)	2.0 (1.6, 2.3)	2.0 (1.6, 2.3)
Other Total Knee	1.0 (1.0, 1.0)	2.0 (2.0, 2.0)	2.6 (2.6, 2.7)	3.1 (3.1, 3.2)	3.5 (3.4, 3.5)

- 2 Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR), Automated Industry Report System (AIRS), ID No.824 for DePuy Synthes, ATTUNE PS/ATTUNE Total Knee, (Procedures from 1 September 1999 – 8 January 2019), Accessed 9 January 2019, AOA, Adelaide: 1-14.

Figure 1: Cumulative Percent Revision of Primary Total Knee Replacement by Model (All Diagnoses)

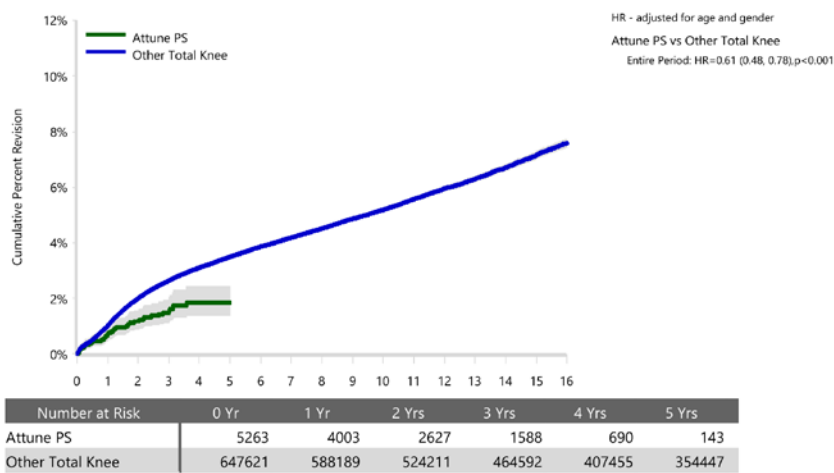


Table 11: Yearly Cumulative Percent Revision of Primary Total Knee Replacement by Model (All Diagnoses)

CPR	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs
Attune PS	0.7 (0.5, 0.9)	1.2 (0.9, 1.6)	1.5 (1.1, 1.9)	1.8 (1.4, 2.4)	1.8 (1.4, 2.4)
Other Total Knee	1.0 (1.0, 1.0)	2.0 (2.0, 2.0)	2.6 (2.6, 2.7)	3.1 (3.1, 3.2)	3.5 (3.4, 3.5)

- 3 National Joint Registry for England, Wales, Northern Ireland and the Isle of Man. Implant Summary Report for DePuy ATTUNE CR and ATTUNE PS. NJR Database extract 14 February, 2019, pages 1-18. Licensed for use until 14 February, 2020. Available at [www.ATTUNEevidence.com](http://www.ATTUNEevidence.com) (US) and [www.provingthepromise.com](http://www.provingthepromise.com) (EMEA).
- 4 Etter K, Lerner J, deMoor C, Yoo A, Kalsekar I. Comparative Analysis of Hospital Length of Stay and Discharge Status of Two Contemporary Primary Total Knee Systems. Journal of Knee Surgery. 2017; 19(3): 1-33. Premier Perspective™ Database analysis including 38 hospitals, representing 1,178 primary, unilateral TKAs with the ATTUNE Knee and 5,707 primary, unilateral TKAs with Triathlon™.
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- 6 Indelli PF, Pipino G, Johnson P, Graceffa A, Marcucci M. Posterior-stabilized total knee arthroplasty: a matched pair analysis of a classic and its evolutionary design. Arthroplasty Today 206;2(4):193-198, 2016.
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- 8 Ranawat CS, White PB, West S, Ranawat AS, Clinical and Radiographic Results of Attune and PFC Sigma Knee Designs at 2-Year Follow-Up: A Prospective Matched-Pair Analysis. J Arthroplasty 2017;32:431-6.
- 9 Toomey SE, Daccach JA, Shah JC, Himden SE, Lesko JP, Hamilton WG. Comparative Incidence of Patellofemoral Complications Between 2 Total Knee Arthroplasty Systems in a Multicenter, Prospective Clinical Study. Journal of Arthroplasty; 2017: 1-6.
- 10 Clary, C W., Fitzpatrick, C.K., Maletsky, L.P., & Rullkoetter, P. J. (2012) Improving Dynamic Mid-stance Stability: An Experimental and Finite Element Study. Orthopaedic Research Society, 58th Annual Meeting, Poster Number 1044, San Francisco, CA.

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