



New UK joint registry data confirms positive early results for the DePuy Synthes ATTUNE® Knee System

Large hospital administrative database review also indicated ATTUNE Knee patients leave the hospital faster and are more likely to be discharged home sooner¹

WARSAW, IN – Nov. 29, 2016. DePuy Synthes*, part of the Johnson & Johnson Family of Companies, today announced new clinical evidence of the positive performance of the ATTUNE® Knee System. The data shows the importance of evidence generation to monitor both the outcomes and economic benefits of new technology. New research from the National Joint Registry for England, Wales, Northern Ireland and the Isle of Man (NJR), which tracks and reports on the survivorship of implants, shows results for the performance of the ATTUNE Knee that compare favorably to the class of cemented total knee systems.² In addition, an analysis of a large U.S. hospital administrative database indicates that ATTUNE Knee patients had 39% lower adjusted odds of discharge to a skilled nursing facility versus patients who received a total knee replacement with a leading competitive knee system.¹

Per the 2016 NJR, the ATTUNE Knee estimated cumulative percent revision was 1.39% at 3 years (98.61% survivorship) for 4,463 knees, comparing favorably to the class of Cemented Total Knee Arthroplasty (TKA) that has an estimated cumulative percent revision of 1.50%.²

“In addition to survivorship and functional performance, recovery is also being studied. One short term study demonstrated improved patient outcomes as compared to another leading knee system, including less pain, better motion, and increased function.³ Another study showed shorter hospital length of stay, which has important implications for the care trajectory and costs”,¹ said Dr. David Fisher**, an orthopaedic surgeon at Ortho Indy in Indianapolis, IN.

The ATTUNE Knee System evidence generation program is the largest in DePuy Synthes’ history with multiple streams of ongoing data collection, both company and investigator initiated. Studies observe all four constructs in terms of survivorship, patient reported outcomes measures (PROMS), learning curve, and fluoroscopic kinematics studies. Radiostereometric Analysis (RSA) of implant micromotion is also being studied since it has been shown to be predictive of longer term survivorship. Together, these PROMS, kinematics, RSA studies, and survivorship data from national joint registries outside of the US provide a database of clinical performance of the ATTUNE Knee System.

Additional positive, interim results for the ATTUNE Knee were shared in three separate congress presentations at the recent International Society for Technology in Arthroplasty (ISTA) meeting in October 2016. One reported improved patient reported outcome measures compared to other leading knee systems.⁴ The second showed reduced incidence of symptomatic patellofemoral crepitus.⁵ The third presentation demonstrated patellofemoral biomechanics that emulated the functionality of a normal knee.⁶

Advancements in TKA surgery systems, such as the ATTUNE Knee, not only benefit patients, but the healthcare system as a whole because patients are able to leave the hospital sooner and return to normal activity. A 2013 study published in *The Journal of Bone and Joint Surgery* found that societal savings, such

as decreased disability costs, return to independent living, and increased work productivity, far exceeded direct costs [of TKA surgery].⁷

Global thought-leader surgeons, engineers, and experts in fields of study such as kinematics, anthropometrics, polyethylene wear and design collaborated to design and test the ATTUNE Knee System. Extensive research and science has gone into the design to help improve functional outcomes for patients, performance for surgeons, and efficiency for providers.

About DePuy Synthes

DePuy Synthes, part of the Johnson & Johnson Family of Companies, provides one of the most comprehensive portfolios of orthopaedic solutions in the world. DePuy Synthes solutions, in specialties including joint reconstruction, trauma, neurological, craniomaxillofacial, spinal surgery and sports medicine, are designed to advance patient care while delivering clinical and economic value to health care systems worldwide. For more information, visit www.depuysynthes.com.

**DePuy Synthes represents the products and services of DePuy Orthopaedics, Inc. and its subsidiaries.*

***Dr. David Fisher is a paid consultant for DePuy Synthes Companies.*

References:

¹Etter, K., Lerner, J., de Moor, C, Yoo, A., Kalsekar, I. (2016). PMD10-Comparative Effectiveness of ATTUNE® Versus Triathlon™ Total Knee Systems: Real-World Length of Stay and Discharge Status." Value in Health 19(3): A298. 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™. The analysis found that the patients implanted with the ATTUNE Knee had statistically shorter length of stay and were more frequently discharged home vs. a skilled nursing facility compared to the TKAs with Triathlon™.

²13th Annual Report 2016: National Joint Registry for England, Wales, Northern Ireland and the Isle of Man, Surgical Data to 31 December 2015, table 3.28.

³Clatworthy, M. (2015). An Early Outcome Study of the ATTUNE Knee System vs. the SIGMA® CR150 Knee System. DePuy Synthes Companies White Paper. DSUS/JRC/0814/0418. In an IRB approved early outcomes study, physiotherapists collected data on 40 patients implanted with ATTUNE Knees and 40 patients with SIGMA CR150 knees. The results demonstrated that patients implanted with the ATTUNE Knee had statistically significant improvements in some early outcomes, other outcomes demonstrated a trend favoring the ATTUNE Knee, and some outcomes were equivalent.

⁴Hamilton, W., Himden, S., Brenkel, I., Clatworthy, M., Dwyer, K., Lesko, J. and Kantor, S. Early Patient Reported Outcomes With New Primary vs. Contemporary Total Knee Arthroplasty: A Comparison of Two Worldwide, Multi-Center Prospective Studies. International Society for Technology in Arthroplasty (ISTA): e-Poster, 5-8 October 2016, Boston, MA. Based on interim data. The leading knee systems included: 89% PFC SIGMA, 3% Zimmer NexGen, 7% SHO Triathlon, 1% Other.

⁵Toomey, S., Daccach, J., Shah, J., Himden, S., Lesko, J. and Hamilton, W. Comparing the Incidence of Patellofemoral Complications in a New Total Knee Arthroplasty (TKA) System vs. Currently Available Products in Two, WorldWide, Multi-Center, Prospective Clinical Studies. While not statistically significant, the trend is promising and follow-up is ongoing. Based on interim data.

⁶Azhar, A. Mannen, E., Smoger, L., Laz, P, Rulkoetter, P, Shelburne, K. Evaluation of In Vivo Mechanics for Medialized Dome and Anatomic Patellofemoral Geometries during Knee Extension and Lunge. Presentation at the International Society for Technology in Arthroplasty, 29th Annual Congress, Boston, MA, 5-8 October 2016.

⁷Ruiz D, Koenig L, Dall T, et al. The Direct and Indirect Costs to Society of Treatment for End-Stage Knee Osteoarthritis. J Bone Joint Surg Am., 2013; 95: 1473-80.

©DePuy Synthes Companies 2016. All rights reserved.

The third party trademarks used herein are the trademarks of their respective owners.

###