

Research Findings

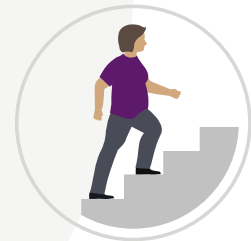
One year results from two worldwide studies showed improved patient reported outcomes with the ATTUNE Knee compared to other leading knee systems.⁴ Four independent studies demonstrated improved patellofemoral outcomes, including reduced incidence of symptomatic crepitus when compared to the well performing SIGMA® Knee.⁵⁻⁸



Confidence in knee performance⁴



Patellofemoral outcomes⁵⁻⁸



Activities of daily living⁴



Quality of life⁴

Knee replacement surgery is a common and successful procedure. The performance of the ATTUNE Knee is in line with other knee systems.⁹

About DePuy Synthes - A History of Leading the Industry Through Innovation

DePuy Synthes provides one of the most comprehensive portfolios of orthopaedic solutions in the world with specialties including joint reconstruction, trauma, craniomaxillofacial, spinal surgery, and sports medicine. Founded in 1895, DePuy Synthes was the first commercial orthopaedics company in the United States. DePuy Synthes continues to advance the art and science of hip and knee replacements by helping orthopaedic surgeons improve mobility for millions of patients around the world.



Get back to doing what you love sooner.^{1,2}

To learn more about knee replacement surgery and find a local ATTUNE Knee orthopaedic surgeon, visit www.ATTUNEknee.com

Important Safety Information

As with any medical treatment, individual results may vary. The performance of knee replacements depends on your age, weight, activity level, and other factors. There are potential risks, and recovery takes time. People with conditions limiting rehabilitation should not have this surgery. Only an orthopaedic surgeon can determine if knee replacement is right for you.

1. Clatworthy, M. (2015). An Early Outcome Study of the ATTUNE® Knee System vs. the SIGMA® CR150 Knee System. DePuy Synthes Companies White Paper. 100959-181017. 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. 2. Etter, K., Lerner, J., Kalsekar, I., de Moor, C., Yoo, A., Swank, M. Comparative Analysis of Hospital Length of Stay and Discharge Status of Two Contemporary Primary Total Knee Systems. J Knee Surg. 2017; 1(212): 1-10. DOI <https://doi.org/10.1055/s-0037-1604442>. 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™. 3. ATTUNE Knee System Unit Sales 2019. DePuy Orthopaedics, Inc. 4. Hamilton W, Brenkel I, Barnett S, Allen P, Kantor S, Clatworthy M, Dwyer K, Lesko J. Comparison of Existing and New Total Knee Arthroplasty Implant Systems from the Same Manufacturer: A Prospective, Multicenter Study. Poster Presentation # 06014, AAOS. Las Vegas, NV. 2019. 5. Toomey, S.D., Daccach, J., Shah, J., Himden, S., Lesko, J., Hamilton W.G.: Comparative Incidence of Patellofemoral Complications Between Two Total Knee Arthroplasty Systems in a Multi-Center, Prospective Clinical Study. J Arthroplasty. 2017; 32:S187-S192. Implants tested: P.F.C. SIGMA (DePuy), ATTUNE® Knee System. 6. Indelli P.F., 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 2016;2:193-8. Implants tested: P.F.C. SIGMA and ATTUNE Knee. 7. Martin J.R., Jennings J.M., Watters T.S., Levy D.L., McNabb D.C., Dennis D.A., Femoral Implant Design Modification Decreases the Incidence of Patellar Crepitus in Total Knee Arthroplasty. J Arthroplasty. 2017 Apr;32(4):1310-1313. Implants tested: P.F.C. SIGMA and ATTUNE Knee. 8. Ranawat C.S., White P.B., West S., Ranawat A.S., 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. Implants tested: P.F.C. SIGMA and ATTUNE Knee. 9. National Joint Registry for England, Wales, Northern Ireland and the Isle of Man. Implant Summary Report for 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 February 14, 2019, pages 1-18. Licensed for use until February 14, 2020. Available at www.ATTUNEevidence.com (US) and www.provingthepromise.com (EMEA).



Kittie Weston-Knauer,
ATTUNE® Knee
replacement patient



Kittie, a retired teacher and principal, is the oldest female BMX competitor in the United States. She is very passionate about cycling, whether it's for fun or competitively. When her knee pain got so bad that it interfered with her cycling, she knew something had to change.

"I never stopped riding my bike and being active," Kittie reflected, **"But I was not able to do it in the same manner, at the same rate that I had been before. Overall my quality of life was compromised because I was in continuous pain. It was even difficult to do simple things like go up and down stairs, get in and out of a car, and sleeping."**

Kittie had both her knees replaced and after nine weeks of physical therapy, she was able to get back on her bike.



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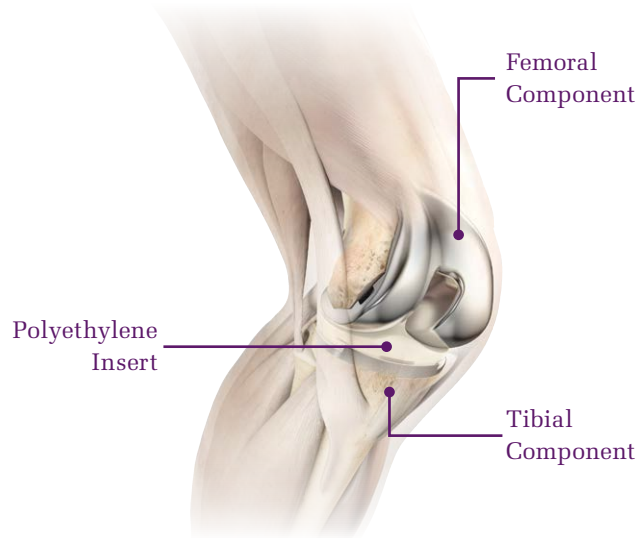
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Visit www.ATTUNEknee.com for more patient stories and information.

How Does Knee Replacement Work?

Knee replacement is a surgical procedure that replaces diseased joint surfaces with implants that mimic a healthy knee.



Before total knee replacement, patients will often undergo a pre-operative physiotherapy and weight loss program. After surgery, a post-operative exercise regimen helps them regain range of motion, strength and stability.

Recovering After Knee Replacement

Rehabilitation begins almost as soon as surgery is complete, and the typical activities include range of motion exercises and walking.

A patient will typically be able to walk unaided, just 6 weeks after surgery and return to work and everyday activities. After 12 weeks, patients may even perform low-impact activities such as golfing, yoga and swimming. With a strong commitment to rehab, patients can reduce their recovery time and get back to their favorite activities sooner.

Designed By Experts, Based On Science

- The ATTUNE® Knee was developed to provide better range of motion and prevent the unstable feeling some patients experience during everyday activities, such as bending and walking up and down stairs.
- Designed to work in harmony with your knee muscles and ligaments to increase stability and reduce pain, the ATTUNE Knee helps you get back to living your life and pursuing your passions sooner.^{1,2}
- Backed by DePuy Synthes' largest-ever research and development program, the ATTUNE Knee has been provided for more than 800,000 patients worldwide since its first clinical use in 2011.³

The ATTUNE® Knee System

Get back to doing what you love sooner.^{1,2}

A Journey to Faster Recovery

In a clinical study, physical therapists noted that ATTUNE Knee patients had **significantly greater range of motion** than other knee replacement patients, both at two and six weeks post surgery.¹

These physical therapists also noted that ATTUNE Knee patients required **significantly less time than other knee replacement patients to meet the necessary criteria to leave the hospital.**^{1,2}

How the ATTUNE Knee System Works

Every aspect of the ATTUNE Knee has been specially designed to work with the body for a full and natural range of motion, while optimizing stability.

The ATTUNE Knee is comprised of several innovative, patented technologies to give you confidence from your very first step.



Smooth Motion and Stability: **The Patented ATTUNE GRADIUS® Curve**

This is designed to provide you with smooth motion and stability as you do everyday activities like walking or going up and down stairs.



Anatomic Movement: **The GLIDERIGHT® Articulation**

This innovation is designed to improve how your patella (knee cap) interacts with the rest of your knee to potentially provide a smooth feeling in motion.

ATTUNE Knee Surgeon Perspective



William P. Barrett, M.D. – ATTUNE Knee Surgeon Design Team; Renton, Washington

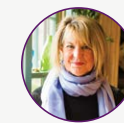
"The ATTUNE Knee System, with its enhanced stability and range of motion, allows my patients to get up and around more quickly. In my experience, my patients are able to get back to work, get back to their activities more quickly than [other patients] would in the past."



Ryan M. Nunley, M.D. – ATTUNE Knee System Clinical Investigator; St. Louis, Missouri

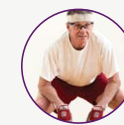
"After doing the first couple of cases, my patients seemed to get out of the hospital faster, have less pain, and a faster recovery. When they came back to their visit at about the one month period, they had better range of motion. I decided that the ATTUNE Knee was the knee that I wanted to use."

ATTUNE Knee Patient Perspective



Pam – Retail Store Manager

"My quality of life since the knee replacement has improved so much. It's been like night and day. Now that I've had my knee replaced, I don't even think about it when I wake up in the morning. I just get out of bed, make coffee, get the paper and don't have to worry about the pain."



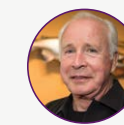
Bob – Handball Player

"My quality of life has changed back to where I was probably in my mid-thirties, early-forties. I was able to do things without pain. I was able to go on walks, able to cut the grass, all the things that you can do when you have two good knees."



Lani – Veterinarian and Equine Therapist

"My physical therapist was kind enough to tell me that in his twenty-plus years of doing physical therapy, he had never seen anybody that had responded, and was recovering, as fast as I was."



Roger – Cyclist and Fisherman

"I am going up and down ladders without a problem, I am fishing without a problem. I enjoy taking my granddaughter out on the boat. My quality of life has changed a lot. One mistake I made, a big mistake, is that I should have gotten it done many years ago."