



Deborah Cogill can bend and walk pain-free thanks to a knee replacement surgery in which a wireless implant helped with recovery.

SMARTER KNEE SURGERY

**NEW TECHNOLOGY HELPS A WOMAN RECOVER
FROM HER SECOND JOINT REPLACEMENT.**

Nobody wants to have knee replacement surgery, but sometimes it's the best—or only—option for fixing painful or debilitating knee problems or injuries.

Few people know this better than Deborah Cogill, a 69-year-old widowed mother of two from Brick who works as a public school kitchen aide. “My knee was bone-on-bone with the breakdown of cartilage in the joint,” says Deborah. “It was a chronic

condition that I'd had for about four years, caused by wear and tear. Standing at work made it worse, causing severe pain and swelling."

In March 2022, Joel Fechisin, MD, an orthopedic surgeon at Monmouth Medical Center (MMC) and partner practice Seaview Orthopaedics Medical Associates, diagnosed Deborah with osteoarthritis in both knees and initially treated her with conservative measures such as cortisone shots and viscosupplementation (gel injections).

"Unfortunately, her condition was already quite advanced, and she didn't see improvement with physical therapy, medications and injections," says Dr. Fechisin.

Deborah underwent a left total knee replacement in April 2023 and, after a smooth recovery, asked Dr. Fechisin when she could have the other knee replaced. "I knew it wouldn't improve without surgery," she says.

But during the next go-round, Deborah wouldn't just benefit from Dr. Fechisin's expertise. In early 2024, MMC became the first hospital in the region to offer the world's only smart knee implant for total knee replacement surgery. Called Persona IQ, the new technology lets doctors remotely monitor patients' progress and activity in real time using implant sensors to collect motion data after surgery.

MEASURING RECOVERY

Dr. Fechisin felt that Deborah would be an ideal candidate for smart knee technology. "She was already familiar with the basics of the surgery itself, the postoperative protocols and what to expect in terms of recovery," he says. "The smart knee offered her a unique opportunity to enhance her operative experience and potentially make her

postoperative recovery even easier."

Deborah opted to have the smart implant, and in February, Dr. Fechisin performed the surgery at MMC. The entire

procedure took about 90 minutes, and Deborah went home the following day.

The smart knee implant records and wirelessly transmits a wide range of data to a patient's personal base station at home for a year following knee replacement surgery. The data is securely delivered to a cloud-based platform that both the surgeon and patient can access.

"I have a Wi-Fi device called a Canary by my bed," says Deborah. "An app on my watch, phone and iPad is synced to it, and my gait, steps and exercises are monitored for Dr. Fechisin to see."

The technology allows doctors to measure other metrics as well, including average walking speed and distance; range of motion; cadence; stride; and other indicators of knee function. Such information is typically collected during physical therapy and reviewed at office visits, but the smart knee technology puts it at doctors' fingertips at any point after surgery.

"Having this information allows me to adjust certain aspects of the patient's recovery protocol when needed, especially if we see negative trends in the data," Dr. Fechisin says.

The transmitted data is an add-on to traditional recovery protocols, not a replacement. "It is never a substitute for an actual patient visit in the office," Dr. Fechisin says.

ONE MORE TOOL

Deborah discovered firsthand how a multipronged approach to recovery is necessary—and how the technology is just one beneficial instrument in a larger toolkit.

"Postoperatively, she required in-person, one-on-one physical therapy three days a week," says Dr. Fechisin. "The smart knee system provided exercises for the other four days."

Deborah needed a walker to stand or walk during her first week after surgery but steadily progressed and improved

TOP HONORS FOR JOINT REPLACEMENT

U.S. News & World Report has named Monmouth Medical Center to its 2024-2025 Best Hospitals as a High Performing hospital for total hip replacement surgery and total knee replacement surgery. This is the highest distinction a hospital can earn in *U.S. News'* Best Hospitals Procedures & Conditions ratings.

The annual Procedures & Conditions ratings are designed to assist patients and their health care providers in making informed decisions about where to receive care for challenging health conditions or elective procedures.

over the next six weeks. Then in mid-April, the unexpected happened: She tripped and fell, causing the incision to open up.

"Fortunately, it was a superficial issue and didn't cause any long-term damage to the joint," Dr. Fechisin says. After making sure the implant was OK, he stitched the wound back together.

"I was glad Deborah notified our office of this issue herself," says Dr. Fechisin. "The smart knee implant wouldn't have been able to tell us about the nature of this particular event."

Despite her brief setback, Deborah's recovery has been excellent. "I've returned to work and can walk without pain," she says. "I'm walking between 4,000 and 6,000 steps daily."

She'd recommend the smart knee to others and is grateful to Dr. Fechisin for giving her the option of using it.

"The smart knee gave me incentive to follow the necessary exercises during my physical therapy," says Deborah. "If the doctor had any concerns, his assistant would call me. I felt comfortable knowing there was someone on the other end to help if I needed it."



JOEL FECHISIN, MD

To learn more about joint replacement surgery, visit www.rwjbh.org/ortho.

