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**UCI Health**

SPRING 2025

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## A Swift Recovery

Fusionless outpatient spine surgery  
puts runner back on track.





# Moving With Ease

Ultra-minimally invasive spine surgery ends years of pain and restores flexibility.

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**H**eather Austin has always been passionate about her morning run. Running energized her and helped her balance the emotional demands of working as a clinical social worker. But three years ago, she began experiencing increasingly severe nerve pain that felt like “electric shocks” traveling from her hips to her knees and later to her ankles.

Over time, she could barely walk without excruciating pain. Running was impossible. Physical therapy offered only temporary relief. She tried steroid medications, anti-inflammatory treatments, muscle relaxants, ibuprofen and even epidurals. Each time the symptoms returned, the pain was worse, making even basic chores and activities difficult for the mother of two busy teenagers.

At age 49, Austin was diagnosed with severe lumbar stenosis — a narrowing of the lower spinal canal that puts pressure on the spinal nerves — and a vertebra that had slipped out of place. Every doctor she consulted, whether it was a neurosurgeon or an orthopedic spine specialist, recommended major surgery: a laminectomy plus spinal fusion. Fearing not only a long recovery but also how fusion would limit the physical activities she cherished, she searched for alternatives.

An accidental encounter with Dr. Don Y. Park, a UCI Health orthopedic surgeon who specializes in ultra-minimally invasive surgical techniques, gave her hope that there was another way.

## A SERENDIPITOUS MEETING

One day in July 2024 while on her lunch break at UCI Medical Center in Orange, the social worker saw a text message from her husband about an “amazing doctor” who performs minimally invasive surgeries for spinal stenosis, with a photo and a link. When she looked up a few seconds later, Austin saw the man whose face was on her phone screen walking in her direction.

The Irvine resident held up her phone, asked Park if he was the man in the photo, then breathlessly introduced herself and explained her situation. Days later, she met with Park, who had already examined her X-rays and scans. He said she was a good candidate for endoscopic spinal decompression, an ultra-minimally invasive procedure without laminectomy or spinal fusion. Best of all, it could be performed on an outpatient basis.

“I was so happy, I called my mother to say I might not need fusion surgery after all.”

Although Austin’s symptoms were severe, spinal stenosis is fairly common — especially as people age — due to wear and tear to their spines over time, says Park, director of the new Advanced Endoscopic and Outpatient Spine Program at UCI Health and a professor at the UC Irvine School of Medicine.



Her passion for life nearly extinguished by pain, Heather Austin discovers a UCI Health surgeon who leads the way in performing fusionless, minimally invasive spine surgery.



“Typically, stenosis starts with disc degeneration, which leads to arthritis in the joints of the spine and bone spurs, as well as thickening of the spinal ligaments,” says Park, an international expert in endoscopic spine surgery who was recruited from UCLA to launch the program.

“This leads to nerve compression, causing sciatic pain going down the legs, especially while walking and standing.”

For patients who do not improve with nonsurgical treatments, the traditional surgical intervention is a lumbar laminectomy to remove bony arches surrounding the compressed area of the spinal canal to relieve pressure on the spinal cord.

“This requires a big incision in the middle of the back,” says Park, who used to perform these standard procedures. “The surgeon then pulls back the muscles covering the spine to visualize the bones.”

Open surgery carries the risk of a range of potential complications, including the chance of long-term pain after surgery.

#### A MINIMALLY INVASIVE OPTION

Park’s minimally invasive approach, which he has used since 2020, employs an endoscope, a flexible tube with a high-powered light and a high-definition camera about 5 millimeters in diameter.

“I make a tiny incision to place the endoscope at the spine where the problem is,” he says. “Then I make a second incision of about 7 or 8 millimeters to insert thin tubes with specialized surgical instruments. The endoscopic camera magnifies the surgical field 200 times, so I’m able to see and remove any pathological structures, like areas of bony overgrowth that are compressing the nerves and causing symptoms.

“I’m also able to preserve most of the patient’s normal anatomy so there’s very minimal tissue damage or trauma.”

For some procedures, he is able to perform surgery with a single tiny incision.

Park, a pioneer in the use of augmented reality (AR), was the first U.S. physician to use the enhanced visualization tool for an endoscopic spine surgery. More recently, he performed the world’s first endoscopic spinal fusion procedure using AR, which also provides computer-generated navigation information to



Before meeting Park, Austin feared she would never again enjoy daily runs, Pilates classes and yoga.

improve precision.

He learned the specialized endoscopic technique in South Korea from surgeons who had done thousands of the outpatient procedures since it was developed there in 2012. “This minimally invasive endoscopic approach has exploded in Europe, South America and India,” he says. “By the time I learned it, the procedure was very advanced, with fully developed protocols and refined techniques.”

Today, when he is not performing procedures in a surgical suite designed for his ultra-minimally invasive approaches, he teaches his technique to other surgeons, including his UCI Health colleagues. Most recently, he traveled to Tanzania to train doctors from several east African countries.

“What’s important is that we perform the right surgery for each patient.”

#### TAILORING SURGERY TO THE PATIENT

Austin’s case was particularly severe due to the length of time she had endured pain, Park says. “Many surgeons had offered spinal fusion to Heather because they probably thought they couldn’t decompress the spinal cord well enough

without a high risk of causing instability that could lead to further symptoms later.”

Fortunately, Austin’s slipped vertebra was stable — meaning it didn’t move back and forth — so fusion wasn’t needed. But even in cases of unstable vertebra slippage, the surgeon can perform spinal fusions endoscopically.

Park has also used the endoscopic technique to perform surgeries on the upper (cervical) spine and the mid (thoracic) spine. That said, not all patients are good candidates for the endoscopic approach.

“Traditional open surgery is necessary when you need a big correction, like scoliosis or trauma surgeries, or when there are tumors that need to be removed with clean margins,” he says. “What’s important is that we perform the right surgery for each patient.”

For Austin, endoscopic surgery was the right choice and came none too soon. “One day at work, the pain was wrapping around my entire body,” she says. “I felt like I was going to pass out. I was put in a wheelchair

and my husband had to drive me home.”

Austin was nervous about her upcoming surgery at the UCI Health — Irvine outpatient surgery center. “I’d never had surgery before. But the nurses, the anesthesiologist, Dr. Park and everyone walked me through the process. Overall, it was a great experience.”

After surgery, Austin woke up feeling immediate relief. Later, while being taken by wheelchair to her car, she braced for a bump, expecting pain, and cried “Ow!”

“When the nurse asked if I was OK, I realized I hadn’t felt any pain at all.”

The next day, she and her husband went for a 20-minute walk. After two weeks of experiencing just “a little bit of soreness,” she drove to her postoperative meeting and told Park that she was absolutely pain-free.

#### QUICKER RECOVERY, LESS PAIN

Austin’s experience is typical with the minimally invasive procedure. “When they wake up after surgery, most patients tell me they don’t have much pain in their back and

their leg pain is gone,” Park says. “Two weeks later, they’re back to normal activities.”

Even patients in their 80s and 90s who have been treated with the endoscopic approach are able to bounce back with minimal pain, he says.

Park envisions the new program becoming a beacon for minimally invasive endoscopic spine surgery in the United States, a world-class place where residents and fellows are trained in the most up-to-date techniques and with the most advanced technology.

“I do this job to see the impact on patients,” he says. “Especially in cases like Heather’s because there was such a night-and-day difference. That is very gratifying.”

Austin, now 50, is back to her 3-mile runs most mornings. She does yoga and Pilates to build her flexibility and core strength. The scars on her back “look like two little freckles,” she says.

“Thanks to Dr. Park, I feel like myself again!” ■

Learn more at [ucihealth.org/spine](https://ucihealth.org/spine)



Exercising in the dappled sunlight, Austin is grateful to have her active life back.