

ROBOTIC SPINAL FUSION SURGERY

Guidance System Improves Accuracy and Precision

Banu Nirmul spent six years living with excruciating leg pain. After multiple nonsurgical interventions, she still had no relief.



Shown from left: Banu Nirmul, her husband Sid Prasad, and their two children, are all active during family time together, now that Ms. Nirmul had experienced significant pain relief from a robotic-assisted spinal fusion.

To improve her ever-present pain, she entrusted **Shabbar Danish, MD**, Associate Professor of Surgery at Rutgers Robert Wood Johnson Medical School along with Robert Wood Johnson University Hospital (RWJ) New Brunswick's newest minimally invasive spine surgery technology, the Mazor Robotics Renaissance guidance system, to give her relief.

The pain started right after the birth of her first child. "I've always had some back pain, but it was nothing that I had to see a doctor about. But this? This was like a burning sensation in both legs that ran from my hips to my feet. It was always there," Ms. Nirmul said.

She thought it was related to delivery, so she returned to her obstetrician. She recovered, but the pain persisted.

Ms. Nirmul, who lives in Easton, Pennsylvania, then began pain management. She tried pain medications and epidural shots. She consulted a local orthopedist, neurosurgeon and other specialists. Countless diagnostics revealed only herniated discs, but no one believed that was the source of her pain.

Years passed and the pain remained. Ms. Nirmul had a second child. She saw a chiropractor and a physical therapist. She tried acupuncture and even underwent nerve ablation. Still, she found no relief. "The pain would take over," she said. "I couldn't concentrate on anything else when I felt that pain, and that was no way to live, especially with two little kids at home."



Shown: Pioneering the use of the new robotic guidance system for spinal surgery is Shabbar Danish, MD, Associate Professor of Surgery at Rutgers Robert Wood Johnson Medical School and Director of Stereotactic and Functional Neurosurgery and the Gamma Knife Center at Robert Wood Johnson University Hospital New Brunswick.

Her husband, Sid Prasad, a nurse practitioner at RWJ New Brunswick, suggested she see Dr. Danish, who is also Director of Stereotactic and Functional Neurosurgery and the Gamma Knife Center at the hospital. Mr. Prasad was familiar with Dr. Danish from radiology cases he worked on in the hospital's Special Procedures Department and was impressed by his skill and how much he cares for his patients.

Ms. Nirmul had degenerative disc disease and a spinal fusion could help, Dr. Danish explained, and he wanted to use a new, minimally invasive spine surgery technology, the Mazor Robotics Renaissance guidance system, to help place the screws.

"This is a young woman with two young children who was out of alternatives," Dr. Danish recalled. "Understandably, she had

reservations about the use of a robot and it being new technology, but I assured her we have all the right support here to do it successfully. The key with Mazor is that the robot offers a shorter operation time, because of how precise we can be with its guidance, so there's less exposure to anesthesia, reduced blood loss, and a faster recovery. And we're the only place in Central New Jersey that has this technology."

Ms. Nirmul considered surgery a last ditch effort. "But he was the most confident doctor out of all the doctors I had seen," she said. "Plus he was the best as far as bedside manner and communication."

She had the operation in April. Before entering the operating room, surgeons use the Renaissance system to pre-plan the surgery in a CT-based 3-D simulation of the

patient's spine. During surgery, the system guides the surgeon's hand and tools to the precise, pre-planned location. She was discharged just two days after the operation.

Ms. Nirmul has experienced significantly less leg pain since the surgery and continues to progress.

"It definitely helped," she said. "It has been only three months since my surgery, and I don't have any back pain. Although I still feel some leg pain, it's nothing like it was. My body is still healing, so we're hoping that, as the bones fuse, any residual pain will continue to lessen."

"For so long, my wife wouldn't take our kids out a lot because she was in pain. She stayed home or she wouldn't be able to get around. At this point we're going 'What are we doing this weekend?'" said Mr. Prasad. "We're happy about that."

Visit www.rwjuh.edu/mazor or call 1-888-MD-RWJUH.

Shown right: New technology at RWJ New Brunswick, the Mazor Robotics Renaissance guidance system, helps neurosurgeons guide and accurately place screws with precision in spinal fusion procedures.

