

Sacral nerve stimulation gives pediatric patients hope

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Heather Rayser, 16, has a colon that does not function properly and as a result, she has never been to high school, and has been on home hospital care for nine years. Her life is filled with rigidly timed and painful flushes to try to clear her colon, but a procedure recently FDA approved for use in adult cases like Heather's is being piloted at Nationwide Children's Hospital to give children like Heather and their families new hope.

Sacral nerve stimulation, sometimes called sacral neuromodulation, is used to help patients desperate to control their bowels or bladder, when other treatment options have failed. During the procedure, surgeons implant a device which addresses communication problems between the brain and the nerves that control bowel and bladder function. If the nerves are not communicating properly, the muscles may not function properly, which leads to incontinence.

"The implanted device delivers mild electrical impulses to the pelvic nerves," said Dr. Steven Teich, director of the Surgical Neuromodulation Program at Nationwide Children's. "The pelvic nerves then begin to tell the muscles when to contract, ultimately helping control the ability to urinate or have a bowel movement."

The first stage of therapy is a test phase, involving the temporary placement of an electrical stimulator. If the patient shows significant improvement in bowel or [bladder control](#) during the test phase, the surgeon implants a permanent electrical stimulator, which Heather had

implanted in May. The Rayser family is now anxiously waiting to see if the device is the answer Heather has been hoping for to allow her to go back to school and finally be a normal teenager.

"To see everything Heather's physically and mentally had to endure these nine years has been very difficult," said Heather's mom, Kellie Rayser. "I don't expect a miracle to happen overnight, but my dream for her is that she'll be able to cut back on the time and pain her treatments cause her and live like a normal teenager."

"For the first time that patients like Heather can remember, they don't have a colostomy and can be just like everyone else," said Dr. Teich, also surgical director of Nationwide Children's Neonatal Intensive Care Unit and Professor of Clinical Surgery at OSU College of Medicine. For the average patient, it can take six months to a year after the device is implanted for the colon to begin functioning normally. The patient can feel the stimulator working, but it does not cause discomfort. Every five years, patients need to have the batteries in their stimulators replaced.

Dr. Teich is also part of a new Center for Colorectal and Pelvic Reconstruction at Nationwide Children's, the first known center in the world to perform [sacral nerve stimulation](#) for patients with the birth defect, imperforate anus.

Sacral [nerve stimulation](#) is only considered for patients meeting specific criteria, and only after traditional treatment methods have been explored.

"Our success rate so far has been that 90 percent of the kids are completely better and can function without washouts or catheters," said Dr. Teich. "This raises the bar for kids who think they are going to have to spend the rest of their lives with severe urine or bowel problems. Families are relieved that there is another option for them."

Provided by Nationwide Children's Hospital

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