

‘It’s amazing’: Hand tremor patients report drastic, instantaneous improvement following noninvasive surgery

Sentara Norfolk General Hospital celebrates 50th focused ultrasound, encourages patients to be screened

The uncontrollable tremors in both of Michael Newby’s hands made it difficult to shower, shave and put on clothes, but the 58-year-old has regained significant control of his left hand after a two-hour incisionless surgery.

Newby’s tremors started impacting his daily life about a year ago. A few months later in October 2023, doctors diagnosed him with tremor-dominant Parkinson’s and prescribed him a daily medication. The tremors persisted.

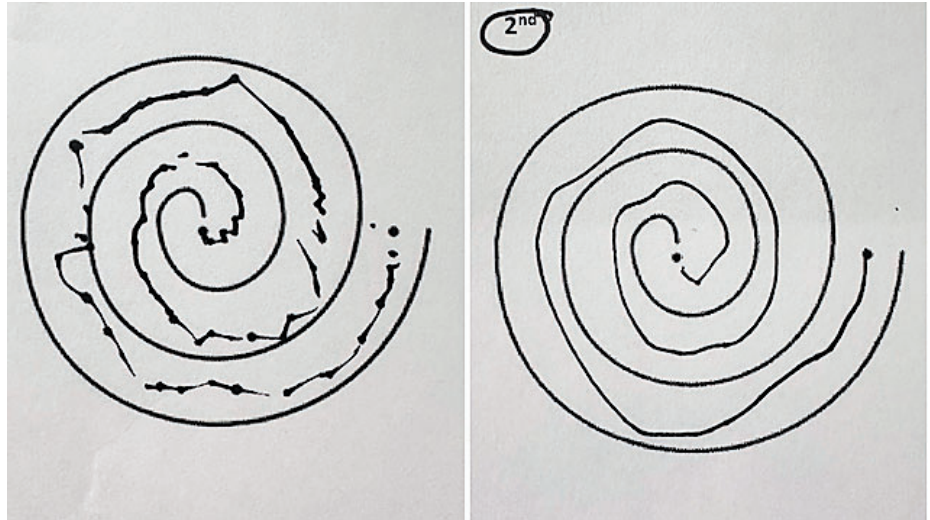
“It was difficult. The shaking would get so severe, it would be so tiring,” Newby said. “I’ve always been pretty healthy. I work out four days a week.”

The Norfolk native said he didn’t have to think twice about having focused ultrasound surgery (FUS) – a noninvasive procedure that uses high-energy ultrasound waves to converge and destroy small areas of brain tissue causing the tremors.

Shannon Clark, M.D., performed the first FUS at Sentara Norfolk General Hospital in May 2022. Less than two years later, she remains the only Sentara Health physician who performs the high-tech surgery for patients with essential tremor (ET) or Parkinson’s. She marked her 50th such procedure on April 5.

“What we are doing is placing the patient in the ultrasound helmet and using MRI imaging and MR thermography to guide the creation of a small lesion in the brain in a sweet spot that controls their tremor,” Dr. Clark explained. “After treatment, patients’ tremors will decrease on average by about 70-80%.”

Newby was Dr. Clark’s 51st patient and the instantaneous improvement exceeded her expectations. Newby



Pictured left is Michael Newby’s pre-surgery trace of spiral image. Pictured right is Newby’s post-surgery spiral showing a smoother and straighter line.

was able to hold his previously unsteady left hand perfectly still moments after the ultrasound.

“It’s 90-100% better. Much, much better,” Newby said. “I could feel the difference while I was in the MRI machine because one side was shaking a little bit, but my left side was completely calm. It was unreal.”

Prior to the surgery, Newby’s medical team tasked him with using a pen to trace inside the lines of a spiral sketch on a piece of paper. He repeated the same exercise post-surgery. Dr. Clark said the post-surgery spiral was “much less choppy” with straighter and smoother lines serving as visual proof the ultrasound hit the right target on the brain.

“I think he did really well,” Dr. Clark said. “I am happy with the result.”

FUS is a less aggressive tremor treatment compared to the traditional surgery of deep brain stimulation (DBS) – an invasive surgery in which doctors drill small holes in the skull to place electrodes in certain areas of the brain. A week later, a second surgery is needed to implant a battery pack in the chest.

“FUS is a gamechanger for patients,” said Dr. Clark. “This is the only brain procedure we do that the patient is awake and you see the results right away.”

Newby has a less severe tremor in his dominant right hand. He is optimistic he’ll be eligible for a second treatment. Patients who wish to have their second hand treated must wait nine months after the first procedure; however, many people opt for treatment solely on the hand with the greatest tremor.

In the days following his surgery, Newby has been able to shower easier, get dressed quicker and he looks forward to shaving his beard for the first time in nearly a year.

“I am very happy. I can’t wait to get the next side done,” Newby said. “Anyone who has this issue should try this procedure. It’s amazing.”

Anyone interested in learning more about FUS or scheduling a consult can visit the Sentara Comprehensive Movement Disorders Program online or call (757) 252-9128.

By: Joe Fisher