Deep Brain Stimulation

Desert Spine and Neurosurgical Institute Offers New Treatment

Dr. Limonadi (behind the drape), speaks with the patient as he implants the deep brain stimulator

For some Parkinson's patients who suffer significant side effects from medications or for whom medication management is no longer effective, deep brain stimulation is a surgical treatment that can offer relief from debilitating tremors and some other symptoms of the disease and reduce the use of medication. Eisenhower Medical Center is the first hospital in the Coachella Valley to make this procedure available.

The multi-stage approach begins with a surgical procedure. With the patient awake, the surgeon implants a series of electrodes deep inside the brain. The wires are then run down behind the ear to a neurostimulator (much like a pacemaker) implanted under the skin beneath the collar bone. When switched on, the device delivers low-voltage electrical impulses to the brain, which aid in balancing the impulses at the affected site. After surgery, the apparatus must be adjusted and fine-tuned over a series of follow-up visits, a skill in which deep brain stimulation team member Maureen Haske, MSN, APRN, BC has received special training. Medications taken by the patients prior to surgery must also be adjusted. These post-surgery adjustments can take weeks or even months to perfect.

"The procedure is usually performed on patients who fit specific criteria," clarifies Farhad Limonadi, MD, a Board Certified Neurosurgeon at Desert Spine and Neurosurgical Institute, located on the Eisenhower Medical Center campus. "You have to carefully weigh the risks of the procedure with the benefits. Also, there absolutely must be a good follow-up team in place. The procedure itself is merely the beginning of the treatment. The adjustments following surgery and finding the optimal medication mix is crucial to achieving the best outcome for these patients."

In February, Michael Cochran, a 66-year-old Parkinson's patient and Palm Desert resident was the first patient in the Coachella Valley to undergo the procedure at Eisenhower Medical Center. An extremely active man with diverse interests, including everything from tennis, volleyball, golf, painting and playing piano, Cochran first noticed a problem with his right hand when he was working. "I worked as a hairstylist for over 40 years, and one day, I just saw a very, very slight jerk. Nothing at all that abrupt, but it happened several times. I saw my doctor and he referred me to a neurologist." The neurologist put Cochran through a series of tests, and although he was not definitive in his diagnosis, he thought it was possible that Michael may be experiencing the very beginning stages of Parkinson's disease. Cochran was officially diagnosed with Parkinson's in 2001. At that time, his symptoms were minimal.

Not long after, Michael was watching an episode of the television program Healthy Living , featuring Eisenhower Medical Center's Neal Hermanowicz, MD, Board Certified Neurologist and Medical Director of Eisenhower's Phillip and Carol Traub Parkinson's Center. "I found Dr. Hermanowicz so knowledgeable, and I loved his bedside manner. I decided to go to a seminar he was giving and that's where we met face-to-face. I've been a patient of his ever since, and that is how I met Dr. Limonadi. I just feel the whole thing was meant to be."

Just six years after his diagnosis, Michael's tremors had become a source of difficulty in his daily life, and he was becoming reclusive. "I was losing strength in my right hand, and although I tried to retrain myself to write and paint with my left hand, I would have to have my wife cut my meat for me, and I couldn't write with my right hand anymore. I would shy away from social activities…and that's not like me. My wife is a very social person and so am I. When I started declining social events, she got really worried."

After a series of evaluations, both Drs. Hermanowicz and Limonadi determined that because of Michael's advanced tremors, relatively young age and otherwise good health, he was a viable candidate for the procedure. "The odds were in his favor," explains Dr. Limonadi. "Michael was very motivated, intelligent, of a reasonable age and some of his symptoms were no longer adequately treated by medications."

On February 26 of this year, Michael underwent the first phase of the medical procedure — the implanting of the electrodes and neurostimulator. He was under local anesthesia, but remained awake for the entire operation. "That was when I was aware of what great hands I was in. Dr. Limonadi is in such control of his operating room…. Whenever I mention his name to nurses or physicians they tell me, 'You've got the best.' He's meticulous and precise. They respect him. I feel like I had the best team in the country."

After a successful surgery, Michael returned about a month later to have his new device programmed. "I was nervous the first time. I think I was trying to be the good patient, and [was] afraid if it didn't work I would be at fault. The nurse just told me to relax. For the first couple of weeks it seemed nothing bothered me and created tremors. Then, if I had an emotion of any kind, I would shake a bit. However, if I would take a deep breath I could stop the shaking." "My wife says how much she appreciates that when she hugs me now, there is a responsiveness and that it felt good to hold my hand again…"

Dr. Hermanowicz credits supporters of the program, the skills of Dr. Limonadi, and his team at Eisenhower Medical Center's Phillip and Carol Traub Parkinson's Center for the success. "It is a pleasure to offer this type of surgical option to our patients. This whole medical process requires very close watch, and I believe the program we have developed over the nine years we have been at Eisenhower Medical Center is one of the finest available. It gives our patients the most individualized attention to optimize their care."

Cochran continues to improve with each follow-up visit and his medications have been reduced significantly. He is also back to playing piano, golfing and enjoying a social life again. He is especially reflective when mentioning the "best thing" about the experience. "My wife says how much she appreciates that when she hugs me now, there is a responsiveness and that it felt good to hold my hand again — that I melted into her. She said it's good to have me back."

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