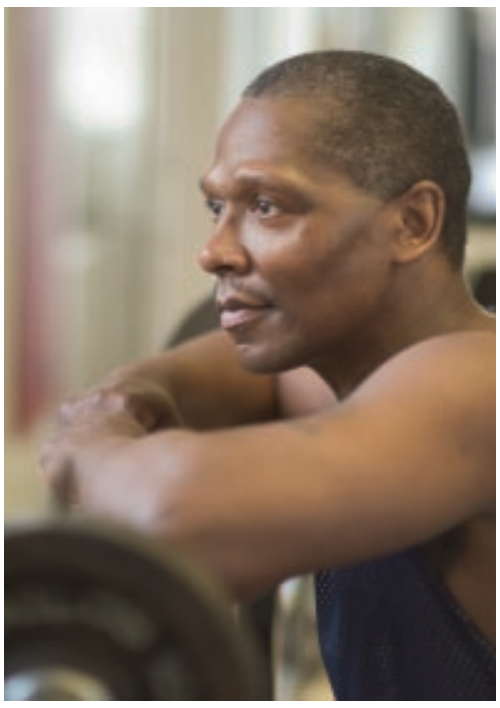
Research Trial May Help Stroke Patients Regain Arm and Hand Function

After suffering a stroke more than two years ago, Stevie Dickens had little movement in his right arm and hand. He struggled to complete simple tasks like tying his shoes. Mr. Dickens, a 51-year-old Chicago resident, then learned from his physical therapist at the Rehabilitation Institute of Chicago about a clinical research trial that could help him regain the use of his arm and hand. The trial is led by Robert Levy, MD, PhD, a neurosurgeon on the medical staff at Northwestern Memorial Hospital and professor of Neurological Surgery and Physiology at Northwestern University's Feinberg School of Medicine.

The trial investigates cortical stimulation, which uses a small electrode to provide low-level stimulation to the brain when activated during intensive occupational therapy. Cortical stimulation, combined with occupational therapy, may help the brain develop new pathways that bypass stroke-damaged brain tissue. These newly established pathways then permanently can take over some of the functions previously performed by the damaged part of the brain.



Stevie Dickens now is able to continue his workouts at the Rehabilitation Institute of Chicago.

The trial is a collaborative effort joining Northwestern Memorial, Northwestern University and the Rehabilitation Institute of Chicago. Dr. Levy was instrumental in designing the study and establishing the study site, which is one of 18 locations nationwide conducting the cortical stimulation research study. Dr. Levy says cortical stimulation is the first procedure with the potential to restore function after the initial recovery from a stroke has steadied.

Cortical stimulation involves surgically implanting a small electrode under the patient participant's skull and above the part of the brain that is responsible for motor function. A small, battery-powered stimulator inserted under the skin, just below the collar bone, triggers the electrode, which is connected through a lead to the electrical stimulator. It is activated only during therapy when the therapist waves a hand-held device over the stimulator. Dr. Levy says the surgical implantation takes about 90 minutes, during which time patient participants are under general anesthesia. Mr. Dickens says he had no major complaints of pain after surgery and went home the next day.

During the next six weeks, Mr. Dickens underwent intensive occupational therapy. Treated as an outpatient, the occupational therapist coached him to move his arm and hand as the electrode delivered painless, low-dose electrical impulses to his brain. Occupational therapists also help with the resumption of the activities of daily living, such as brushing hair. Patient participants spend nearly three hours a day and 26 visits over a six-week period relearning these tasks.

After the occupational therapy regimen is completed, the implanted electrode and stimulator are surgically removed while the patient is under general anesthesia, but progress made during study treatment usually remains. Patient participants receive a personalized exercise program to continue at home for one hour a day, five days a week.

Although not everyone who participates in the research has such a positive outcome, Mr. Dickens says that since completing the research study, he has been able to do almost everything he could before his stroke. "Now I can lift weights and do simple things, like swing my arms, that I was able to do before my stroke," he says.

People who qualify are being accepted to participate in the study. Interested individuals should be at least 21 years of age, have been diagnosed with a stroke at least four months ago and have moderate movement in the arm and hand affected by the stroke. Once qualified to participate, two-thirds are randomly assigned to receive the implant along with occupational therapy, and the other third receive standard care alone. At the conclusion of the study, the findings will be presented to the FDA for evaluation and possible approval.

For more information, call Northwestern Memorial Hospital's Health Resources and Physician Referral Service at 312-926-8400. NM

Treatment Options Help Patients Suffering from Irritable Bowel Syndrome

Alison Miner, a Chicago attorney in her mid-30s, works long hours and enjoys the fast-paced and competitive environment of her downtown law firm. Until recently, however, Ms. Miner struggled to balance the demands of her job with painful and sometimes debilitating digestive problems. "I would sit in meetings with horrible stomach cramps, hoping no one would ask me a question," she recalls.

Her pain and discomfort began interfering with her ability to do her job, and she decided to seek help. Her internist referred her to Robin Fintel, MD, a gastroenterologist on the medical staff at Northwestern Memorial Hospital and clinical instructor of Medicine at Northwestern University's Feinberg School of Medicine. Dr. Fintel diagnosed and treated Ms. Miner for irritable bowel syndrome (IBS), a chronic condition that affects the bowel and intestines.

IBS is one of the most common gastro-intestinal disorders, with an estimated one in five Americans suffering from the condition. IBS can be painful, uncomfortable and life altering with severe components, but it is not life threatening and does not lead to more serious disease. Although there is no known cause, physicians suspect that people with IBS have overly sensitive colons. In some IBS patients, the muscles contract too much after eating, causing painful cramping and diarrhea. In others, the colon does not contract as it should and stool can become hard and difficult to pass.

Women seem more prone to IBS, and most people begin experiencing symptoms in their 20s and 30s. Symptoms vary from person to person, but typically include constipation, diarrhea, cramps, bloating, gas and the feeling that you have not finished a bowel movement. Stress, fatty foods, large meals, menstrual periods, caffeine and soda can worsen symptoms.

If symptoms reoccur, that is a red flag to see a physician, says Robert Craig, MD, a gastroenterologist on the medical staff at Northwestern Memorial and professor of Medicine at the Feinberg School. To diagnose IBS, gastroenterologists take a patient's medical history and conduct a physical.

"There is no single test to say 'you have IBS,'" Dr. Craig says. "Instead, it's a diagnosis of exclusion. Before you can diagnose IBS, you need to rule out more serious diseases of the digestive system."

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To do that, physicians may perform blood and stool tests; obtain a small-intestine X-ray and perform an endoscopy, which uses a flexible, lighted tube with a camera on the end to obtain pictures of the stomach; or colonoscopy, which uses a similar tube with a camera to examine the intestines, colon and rectum.

Once IBS is diagnosed, a treatment plan can be developed to accommodate each patient's specific needs.

At Northwestern Memorial's Center for Integrative Medicine, Judy Fulop, ND, a functional nutrition and naturopathic practitioner, and other practitioners work with patients who have IBS by using nutrition, supplements and lifestyle changes. Fulop, who says each patient has an individual variable of IBS, asks patients to complete a 12-page medical history and then works with them to create a personalized plan based on clues provided by their body's digestion, nutritional deficiencies and responses to foods.

Fulop says certain everyday foods cause intestinal inflammation and irritability, with the problematic foods varying with each patient. She works with patients to remove and then reintroduce foods until the culprits are found. In addition, some of the naturopathic approaches she may suggest are digestive enzymes and/or vitamin C for constipation, enteric-coated peppermint oil and/or calcium and magnesium for cramping, and herbs like slippery elm to help soothe the intestinal lining.

IBS symptoms can be controlled with medication and other lifestyle changes. Dr. Fintel recommends eating small meals throughout the day, rather than three large meals; getting regular exercise; reducing stress; eating a fiber-rich diet; and eliminating or reducing fatty foods and dairy.

Today, Ms. Miner takes several medications and has modified her diet to manage her IBS. She credits physicians on the medical staff at Northwestern Memorial with helping her cope with irritable bowel syndrome.

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