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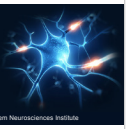

The latest insights from Carolinas HealthCare System Neurosciences Institute

New advances offer fresh hope to patients with refractory epilepsy

Ilona Humes, MD
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Carolinas HealthCare System Neurosciences Institute - Northeast

Erik Sass, MD
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Thanks to new surgical techniques and implantable devices, patients with refractory epilepsy no longer have to worry about some of the challenges associated with surgery such as long recovery times or large scars.

These new treatment options are now available in the Charlotte area at Carolinas HealthCare System Neurosciences Institute, one of the few centers that offer such innovative technologies in North Carolina. Taking advantage of these therapies starts with a comprehensive evaluation that can pinpoint the right candidates for the appropriate treatment options.

"The sooner we start treatment, the better the outcomes," says Ilona Humes, MD, epileptologist at Carolinas HealthCare System Neurosciences Institute. "Early referral to a tertiary epilepsy center like ours is critical for matching the appropriate treatment to targeted patient populations."

For patients who are candidates for surgery – for example, those whose epileptogenic zones are easily identified – MRI-guided laser ablation therapy is an effective, less invasive option. Available for about 10 years, laser ablation has shown very positive long-term outcomes in seizure reduction.

With this new technique, a 1 mm laser fiber is inserted through a small hole in the skull, where it heats up to destroy targeted lesions. Patient benefits include shorter surgery and hospital stay, fewer intraoperative risks and a smaller craniotomy.

For patients who are not surgical candidates – such as those whose epileptogenic zones cross the eloquent cortex or have two or more seizure foci – a responsive neurostimulator device (RNS) can offer long-term seizure reduction.

Superficially placed in the skull, the RNS is attached to the epileptogenic zones through electrodes. The device then learns the specific electrical patterns of a patient's brain. When abnormal activity is detected, the device automatically sends brief pulses to instantly disrupt this activity and normalize brainwaves.

"With surgery, the chance of refractory patients becoming seizure-free is up to 70 percent in certain patient populations," says Erik Sass, MD, epileptologist at Carolinas HealthCare System Neurosciences Institute. "That's compared to a small percentage of patients who will become seizure-free by continuing to use medications only."

To make a referral or learn more about these cutting-edge techniques, contact us at 704-403-6348 or email our epilepsy director at Ashley.L.Moore@CarolinasHealthCare.org

Meet the Epilepsy Team

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Twice as many patients could benefit from deep brain stimulation

Danielle Englert, MD
Director of Deep Brain Stimulation Program
Center for Parkinson's Disease and Movement Disorders
Carolinas HealthCare System Neurosciences Institute

As deep brain stimulation (DBS) evolves to meet unmet needs for a new generation of patients with Parkinson's disease or essential tremor, more patients could be benefiting from these new innovations.

"Many physicians see DBS as the last possible option," says Danielle Englert, MD, a movement disorders specialist at Carolinas HealthCare System Neurosciences Institute. However, DBS is often more effective at reducing symptoms and improving quality of life when used earlier in the disease process compared with using medications alone.

Estimates show that less than 5 percent of Parkinson's patients have a DBS device, although Dr. Englert says that between 10 and 20 percent could potentially benefit from device implantation.

The movement disorders program at Carolinas HealthCare System Neurosciences Institute is committed to providing the most innovative treatment options. "We want to offer our patients the most recent technology advances to provide the best possible care," says Dr. Englert.

At Carolinas HealthCare System Neurosciences Institute, DBS surgery is performed using an innovative frameless system that decreases operating time by as much as 30 percent while allowing for more accurate electrode placement.

We are currently assessing new advances that allow us to direct the stimulation more precisely. Additionally, the new systems feature smaller, longer-lasting devices and have smartphone-enabled apps that offer wireless electrode control.

With more than 10 years of experience managing more than 300 patients treated with DBS, Dr. Englert understands that complete care encompasses both new therapies and personal support. From initial screening of patients in the clinic to the surgical procedure to post-op management, patients can count on Dr. Englert being at their side in the same room. "Patients and their families really appreciate this level of support and continuity," says Dr. Englert.

To determine if your patient could be a candidate for DBS surgery, call 704-446-1900 to refer a patient.