New advances offer fresh hope to patients with refractory epilepsy

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To many, neurosurgery is a daunting and feared procedure, but patients with refractory epilepsy no longer have to worry about some of the challenges associated with it. Advances in technology have made it possible to offer this treatment option in a less invasive way.

“Many physicians see DBS as the last possible option,” says Davey Engel, MD, epileptologist 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 than medications alone.”

Patients who are candidates for DBS surgery include those whose medications alone are no longer effective. DBS is a surgical technique that involves the placement of a small device, known as a neurostimulator, under the skin near the brain. The device delivers electrical impulses to the specific parts of the brain that are responsible for seizures, helping to stop them from occurring.

Engel notes that DBS is considered the most appropriate treatment for patients who are not surgical candidates – such as those whose epileptogenic zones cross the eloquent cortex or have two or more seizure foci – and for patients who have failed to respond to traditional treatments.

“Many physicians refer their patients to us for DBS when they have tried all available options and their seizures are still not under control,” Engel says. “DBS is a great treatment option for those who have not responded to medication but still want to avoid craniotomy.”

For patients who are candidates for surgery, Engel recommends coming to the hospital with the best possible health and mental state. He says that many patients who have been through surgery in the past appreciate this level of support and continuity.

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Engel emphasizes that with surgery, the chance of refractory patients becoming seizure-free is up to 70 percent in certain patient populations. “With surgery, the chance of refractory patients becoming seizure-free is up to 70 percent in certain patient populations,” Engel says. “With some patients, the success rate can be even higher.”

Engel notes that more patients are coming to him for DBS surgery because of the latest advancements in technology. The latest generation of patients with Parkinson’s disease or essential tremor, more so than ever, are now benefiting from these new innovations.

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