Approximately one million Americans continue to experience epileptic seizures despite the use of anti-seizure medications. The recent introduction of two innovative surgical procedures at UCLA’s Adult Epilepsy Program means adults with debilitating seizures now have greater access to safe and effective treatments.

MRI-guided laser ablation

MRI-guided laser ablation is a relatively new, FDA-approved surgical procedure. During the procedure, UCLA neurosurgeons guide a laser through a small hole cut into the skull. Surgeons reference real-time MRI-thermal imaging to heat and destroy abnormal, seizure-causing brain tissue with the laser. This tissue may be located in areas of the brain that are unapproachable with standard surgery. The laser’s targeted precision ensures surrounding healthy tissue remains untouched.

Because there is minimal impact to the skull and surrounding brain tissue, patients who undergo laser ablation often go home a day or two after the procedure. Patients who undergo this minimally-invasive surgery also benefit from a faster recovery time and lower infection risk compared to conventional surgeries.
Responsive neurostimulator therapy

Patients who are not eligible for conventional epilepsy surgery due to seizures that originate from more than one location or from areas close to centers providing critical functions can benefit from responsive neurostimulator (RNS) therapy. Neurosurgeons implant the RNS system under a patient’s scalp and connect electrodes to regions identified as causing the patient’s seizures. When the device detects the electrical activity of a seizure, it delivers a small amount of electrical stimulation to the area, which disrupts the abnormality before the patient is aware of it.

Clinical studies indicate that the RNS system may reduce the average number of monthly seizures by as much as 38 percent.

UCLA’s Adult Epilepsy Program is one of about 20 programs nationwide currently offering the RNS system for adults with medically intractable epilepsy. The FDA approved RNS as an epilepsy treatment in November 2013.

About the UCLA Adult Epilepsy Program

UCLA’s Adult Epilepsy Program is one of the largest and most established of its kind in the country. As part of UCLA’s comprehensive program, patients receive a complete diagnostic evaluation to help doctors customize the most appropriate treatment plan. This may include medications, neurostimulation or surgical treatments. The program’s team of experts works with neurologists for complete patient care.