

Mayo Clinic Provides New and Better Treatments for Epilepsy

Written by Arizona Foothills Magazine

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Epilepsy is a seizure disorder affecting more than two million Americans of all ages. About one in 100 people in the U.S. will experience a potentially epileptic seizure.



Successful treatment requires developing the right therapy for each individual patient, often involving medications and/or surgery. A one-size-fits-all approach to treatment doesn't work because there are many types of epilepsy and its severity varies widely.

Mayo Clinic is a world leader in developing innovative ways to diagnose and treat epilepsy. Each year, more than 3,500 people with epilepsy come to Mayo Clinic to receive effective treatment from Mayo's nearly 150 epilepsy specialists. At Mayo, teams of experts from multiple medical specialties work together to find the most appropriate treatment for each patient. Mayo Clinic physicians don't stop looking for the answer until they find it.

Accurate diagnosis, effective treatment

Diagnosing epilepsy is a challenge in itself. It's not unusual to hear of patients who have endured months of doctor visits and medical examinations before receiving an accurate diagnosis. Mayo Clinic experts are often able to deliver an accurate diagnosis in just a fraction of that time—days or weeks, not months. At Mayo, experts from many medical specialties work together using sophisticated diagnostic tools to quickly and accurately scan the brain for scarring, shrinkage, or abnormalities that could be seizure related.



Here's how a typical visit might work: A patient arrives at Mayo Clinic on Monday for initial consultation. By Thursday, he or she will have completed evaluations that may include imaging, inpatient video EEG monitoring, a SISCOM study and a neuropsychological evaluation—all of which provide physician specialists with the info they need to make an accurate diagnosis and develop a treatment strategy. By Friday, the patient might begin treatment, including surgery if needed. Most epilepsy patients at Mayo Clinic average two to four weeks from initial consult to surgery.

Many brain surgeries at Mayo Clinic are "computer-assisted," which allows neurosurgeons to plan the safest and least invasive route possible. During the operation, the system guides the surgeon precisely to the target. Computer-assisted surgery usually involves a smaller incision and less risk of injury to critical brain structures. Patients usually benefit from less anesthesia time and blood loss, as well as a shorter hospital stay and less postoperative discomfort. Mayo Clinic neurosurgeons have performed computer-assisted brain surgery on thousands of patients.

Mayo Clinic makes continual advancement in diagnosing and treating epilepsy through a number of innovative research programs, continually evaluating and testing new medications and devices.

Click the next button below to read more.

Coming to Mayo Clinic



Mayo Clinic is an in-network provider for millions of people. In most cases, a physician referral is not required. For more information or to

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schedule an appointment today visit mayoclinic.org or call 800.446.2279.

ADVANCED IMAGING TECHNOLOGIES

Concerned about epilepsy? Ask your physician about these powerful diagnostic tools:

- **SISCOM (Subtraction Ictal SPECT Co-registered to MRI):** A non-invasive procedure developed by Mayo Clinic. A tracer injected into the patient's bloodstream tags red blood cells at the site in the brain where seizures originate. A specialized computer then pairs multiple SISCOM scans with MRI scans to reveal the precise physical location of the seizure hotspot.
- **Electroencephalography (EEG):** A non-invasive procedure that records patient brainwave activity, which may help in diagnosing seizure type, and in certain patients, can help to identify the area of seizure onset.
- **Inpatient video-EEG monitoring:** Monitoring that can be used to confirm or rule out epilepsy, identify seizure type, and find the brain location where seizures begin. Inpatient video-EEG monitoring has been shown to detect previously undiagnosed seizures in up to 20 percent of adults who undergo the procedure.
- **Magnetic Resonance Imaging (MRI):** Specialized MRI scanning may detect very subtle asymmetries that indicate the side of the brain where seizures start. Mayo Clinic researchers have developed several MRI techniques to detect subtle abnormalities that are often missed.
- **Positron Emission Tomography (PET):** PET is potentially helpful in patients who have partial seizures but MRI does not prove an abnormality is causing the problem.
- **Neuropsychological testing:** Techniques to measure memory and cognition, and identify areas of the brain that are not functioning normally.