

Medications control seizures in

70%

of patients.

WINNING THE FIGHT AGAINST

# EPILEPSY



EPILEPSY IS A VERY COMMON DISORDER CAUSED BY AN UNCONTROLLED ELECTRICAL DISCHARGE OF THE BRAIN WHICH DISRUPTS FUNCTION. THREE OUT OF 100 PEOPLE WILL DEVELOP EPILEPSY, USUALLY EARLY IN LIFE OR AFTER AGE 60.



BY JERI SUTHERLING, BSRN, PHN

While genetics sometimes play a part, epilepsy is usually caused by a scar, brain infections, tumors, severe brain injury or stroke. Medications control seizures in 70 percent of patients, while 30 percent develop intractable epilepsy, which prevents driving, impacts education and employment and can even be life threatening in some cases. Not only are patients' lives impacted, but their families are affected as well.

Epilepsy consists of two main types of seizures: partial and generalized. Partial seizures start in one part of the brain, and generalized seizures start on both sides of the brain at once.

For the 70 percent whose seizures can be controlled with their first or second trial of medication without side effects, continued follow-up with a neurologist is recommended.

For the remaining 30 percent of patients, or for those who experience unacceptable side effects, visiting a Level 4 Epilepsy Center is in order. These centers provide complex forms of intensive neurodiagnostic monitoring and extensive medical, neuropsychological and psychosocial treatments.


The National Association of Epilepsy Centers (NAEC) developed the levels of care as a useful tool to evaluate the appropriateness and quality of specialized epilepsy treatment. Level 4 centers offer a complete evaluation for epilepsy surgery, including intracranial electrodes, and provide a broad range of surgical procedures for epilepsy.

## DIAGNOSIS

A typical level-four evaluation begins with a review of a patient's complete medical history. Having a witness to the patient's seizure describe the seizure in detail to the doctor can provide important information to help determine whether the seizure was partial or generalized.

The doctor will want to review actual data such as EEGs, MRIs and CAT scans. Doctors specializing in epilepsy are often able to pick up information that may have been dismissed or remained undetected before. If there is a question about the original diag-

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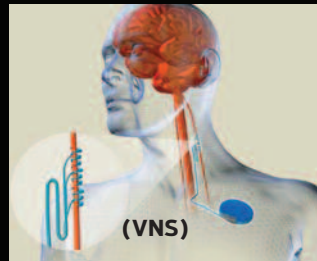
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## HEALTHVIEW 2

### EPILEPSY

nosis, the doctor may order a video EEG — a 24-hour recording of the EEG with a simultaneous video of the patient. The goal is to capture the patient's seizures so the doctor can determine the seizure type and exact location. This helps the doctor determine the best treatment option.

### TREATMENT



Surgery can be an option for the patient with localized seizures; however, before a patient becomes a candidate for surgery, extensive testing is necessary to validate the location and seizure type. This process can take several months, depending on the complexity of the case.

Another less invasive procedure is the vagus nerve stimulator (VNS). Vagus nerve stimulation requires a one-hour surgery to implant a pacemaker-like device underneath the skin near the collarbone. Used in patients 12 and older who have partial seizures, the VNS sends a few seconds of electrical energy to the vagus nerve every few minutes. The patient can also activate the device by passing a small magnet over the battery if he or she feels a seizure coming on. Hoarseness and some discomfort in the throat are typical side effects of the VNS. Although the VNS does not provide complete control of seizures, most patients experience a decrease in the number of seizures and an improved quality of life.

Perhaps a lesser known treatment option is diet. The Ketogenic Diet, a very restrictive, high-fat, low-carbohydrate and low-protein diet, has proven successful in controlling seizures, especially in children. Ongoing research on treating epilepsy through diet is being conducted nationwide, including at the Epilepsy and Brain Mapping Program (EBMP) in Pasadena, one of the original 17 Ketogenic Diet Centers in the country.

“We have found at the EBMP that the diet can work immediately with some patients (especially with children) but that with others it may take longer. Most adults fall in to the latter category,” says Tatiana Maleeva, MD, pediatric neurologist. In recent years, other diets such as the Modified Atkins and Low Glycemic Diet are being used as well as the Ketogenic Diet. “The outcome of the patient can be directly related to the experience of the dietary team,” says Dr. Maleeva.

As with many disorders and diseases, proper, early diagnosis is critical. Research and development of new medications with fewer side effects offer more treatment options and hope for a cure. As November is National Epilepsy month, reach out to someone with epilepsy to show you care. *yh*

For more information about epilepsy, visit [www.naep-epilepsy.org](http://www.naep-epilepsy.org), [www.epilepsyandbrainmapping.com](http://www.epilepsyandbrainmapping.com), or call **626.762.7300**.

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