

## Pediatric Epilepsy

### Standard Treatment Options

There are several types of treatment used for epilepsy to help control and stop seizures. Choosing the right treatment plan is very important, and should be carefully discussed with your doctor.

#### Medications

In the United States, there are more than 20 medications approved as treatment for seizures in adult patients. Many of them are also approved for children. Each of the medications has its own method of action, especially helpful in certain types of seizures. However, while they may be useful in controlling seizures, they may also cause some unfavorable side effects.

Our team creates treatment plans to fit each child's diagnosis and type of seizure(s), with a goal of helping patients achieve the best possible seizure control with the least side effects from medication.

#### Epilepsy Surgery

Epilepsy surgery involves the safe removal of the part of the brain causing seizures. In recent years, epilepsy surgery has become a very safe and effective treatment method for some pediatric patients who do not respond to medications. Our team consists of pediatric epileptologists (doctors who specialize in epilepsy), pediatric neurologists, pediatric epilepsy neurosurgeons, EEG technicians, social workers, dietitians, nurses, pediatric pharmacists, pediatric anesthesiologists, pediatric intensive care physicians and neuro-radiologists.

#### Ketogenic Diet

The ketogenic diet is another treatment choice available for children who continue to have seizures, even though they take medication. The diet is based on the way that fat

affects the activity of the brain. With the ketogenic diet, the recommended amount of calories per day for your child is the same, but the source of these calories is carefully and exactly measured: 90 percent fat, 5 percent carbohydrates and 5 percent protein. Participation requires careful evaluation by the pediatric epilepsy team and nutrition specialists. Working together, they create meal plans geared to each child's likes and dislikes, and provide follow-up care and laboratory test supervision. To be effective, guidelines must be strictly observed; therefore, families must be very committed while patients are on the diet.

#### Vagus Nerve Stimulation

The vagus nerve stimulator (VNS) is a small, battery-powered device, similar to a pacemaker, that is surgically placed in the upper left chest wall and attached to the left vagus nerve via two electrodes (thin wires). Once in place, the device sends electrical signals to the vagus nerve in a pattern that is selected by your epilepsy doctor and activated through a special hand-held computer. Depending on its usage, batteries must be replaced every three to five years. Current studies show that the VNS may decrease seizures by up to 50 percent in about half of patients using this therapy. VNS has also shown to be safe for patients, ages 12 years and older, who have partial seizures, but do not respond to medication and are not candidates for epilepsy surgery. Its usefulness in generalized seizures is unknown. No serious side effects from VNS have been reported. Speak with your child's doctor about the risks, side effects and benefits of VNS.

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