

Your Questions Answered

EPILEPSY

Q

What are the risks and benefits of using divalproex sodium (Depakote) for treating seizures? Are there people who should avoid this drug?



DR. MARTHA
J. MORRELL
RESPONDS:

Divalproex sodium (Depakote, Depakote ER) is an effective and well-tolerated antiepileptic drug (AED) for many people with seizures. It has been available in the United States since 1983 for the treatment of complex partial, myoclonic, and absence seizures. During a complex partial seizure, an individual loses awareness; myoclonic seizures are brief, shock-like jerks of a muscle or group of muscles; and absence seizures are characterized by lapses of awareness that begin and end suddenly, lasting only a few seconds.

Many doctors also use the medication for generalized tonic clonic seizures, which involve the entire body. Divalproex sodium is a particularly useful medication because it is effective for so many types of seizures.

However, as with any medication, side effects are possible. Rare but potentially serious side effects include inflammation of the pancreas (pancreatitis) and liver toxicity. More commonly, divalproex sodium has the potential to cause weight gain, disturbances in reproductive health, and, if used during pregnancy, birth defects and neurodevelopmental delay (the omission or arrest of a stage of early development). Divalproex sodium can slow the metabolism of carbohydrates and increase levels of the hormone insulin and testosterone. As a result, women may develop polycystic ovaries and experience irregular menstrual cycles. In turn, these effects can cause weight gain, increased facial or body hair, thinning of scalp hair, and acne. Let your doctor know if any of these symptoms occur.

Divalproex sodium is also known to increase the risks for birth defects, including defects of the brain and spinal cord. In the general population, approximately 3 percent of babies are born with birth defects. This rate is even higher for infants exposed to divalproex sodium during pregnancy. According to a North American registry of pregnancies in women taking AEDs, the risk of birth de-

fects in infants born to mothers who had taken valproate (very similar to divalproex sodium) is 9.3 percent. A larger European Registry found the risk for birth defects to be 5.6 percent for women taking less than 700 mg a day of divalproex sodium, and 24 percent with doses of 1500 mg or more a day.

In addition, an ongoing study in the United States and United Kingdom—the Neurodevelopmental Effects of Antiepileptic Drugs, or NEAD, study—indicates that children exposed to divalproex sodium during pregnancy have lower IQ scores, poorer motor functioning, and may also have poorer social skills. Higher doses of divalproex sodium appear to be associated with higher risks for these developmental problems.

Based on these safety concerns, divalproex sodium is generally not considered to be the AED of choice for women in their reproductive years. Your doctor may suggest other AEDs based on your seizure type. However, for some patients, divalproex sodium may be the only medication able to control seizures. In this situation, divalproex sodium is used at the lowest possible dose to control seizures. If a pregnancy occurs, a special type of ultrasound will be performed in order to look at the baby's brain and spinal cord. Many doctors recommend that women taking divalproex sodium also take folic acid at doses of 0.4 mg to 5 mg a day, although it is not known whether this effectively protects against birth defects.

Seizures also cause a risk to the fetus, so for most women with epilepsy, not taking an AED during pregnancy is not a safe option. If you are planning a pregnancy, speak to your doctor about the best medication options. If you find that you are pregnant and taking divalproex sodium, do not stop your medication. Meet with your doctor to discuss the best pregnancy management.

Martha J. Morrell, M.D., Fellow of the American Academy of Neurology, is a clinical professor of neurology at Stanford University in CA and a specialist in epilepsy care. Dr. Morrell also serves as the chief medical officer of NeuroPace, Inc., a company that focuses on the treatment of neurologic disorders with responsive brain stimulation.

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ADHD

Is there a way to reduce or eliminate ADHD in children without medication?



DR. MARTHA BRIDGE DENCKLA RESPONDS:

First, it's important to do a thorough neurologic and neuropsychological examination in order to determine whether the child has ADHD—in other words, a brain that is not age-appropriate with respect to motor, cognitive, and emotional control. Medication for ADHD can help to improve the child's emotional control, which is very important for social relationships.

However, I find two non-pharmaceutical approaches for children with ADHD useful as well. The first is positively oriented behavior modification. Behavior modification is based on identifying a behavior that needs to be modified and then identifying the antecedent and the consequence of that behavior. Here's an example: a child is homesick (antecedent) so

he starts crying in class (behavior) and gets reprimanded by his teacher for being disruptive (consequence). Unfortunately many people—child psychologists and school systems included—assume that consequences must always be something painful or negative: Three strikes and you're out.

Research has demonstrated that you can achieve better learned behaviors if you use positive behavior modification. So, for example, if you catch a child doing something constructive, you give him or her a check mark or a happy face and then dole out awards based on the child earning a certain number of check marks or happy faces. Parents might want to consult with their child's psychologist or therapist to decide what kinds of awards are appropriate. Punishment is reserved only for things that are harmful to the child or to others. Studies have shown this positive approach to be very effective.

The second method is specialized tutoring in the school setting: how to study, how to write a paper, and how to manage time. The children become more organized learners and can sometimes succeed without drugs.

Martha Bridge Denckla, M.D., is a professor of neurology, pediatrics, and psychiatry at the Johns Hopkins University School of Medicine, and a member of the American Academy of Neurology.





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