



By Joshua Kors

Writer Joshua Kors has learned to avoid seizures by heeding their warning signs.

# Inner Vision

I had my first seizure on Thanksgiving Day, 1991. I was 13 years old. The night before, I had attended a rock concert with a family friend. At the concert, we had a bitter disagreement. I came home in a rage.

At 4:30 in the morning, I began to convulse. I started to shake and drool. My eyes rolled to the back of my head. I urinated all over my bed. My mom called 9-1-1.

Doctors at the hospital diagnosed *epilepsy*, a medical condition that causes seizures. People with epilepsy have damaged pockets of *neurons* (nerve cells) in their brains. Sometimes those neurons overreact, causing the eyes to see strange lights and the arms and legs to spasm.

In my sophomore year of high school, I had another seizure, this time during biology class. After that, the seizures came frequently. Each began as a flashing red light bursting into the upper-right-hand corner of my vision. From there it spread, as if my field of vision had caught on fire. I would grow more and more disoriented. Then my right eye would black out before I'd lose consciousness altogether. For the next nine years, the flashing red lights came and went, sometimes as often as five times a day.

My doctor put me on a high dose of Tegretol, an anti-convulsant medication. But it caused its own problems.

Up to that point, I had been a straight-A student. Once the medication kicked in, I felt as if my brain had been dunked into sludge. I had trouble reading and writing and was too woozy to participate in gym class. I felt like a zombie.

Tegretol had stopped my seizures. But the havoc it wreaked on my mind was worse than the seizures themselves. I wondered: Could there be a better treatment?

## FOURTH TRIGGER

Most *neurologists* (doctors who treat the nervous system) agree that certain factors can trigger seizures. They are: not sleeping enough, forgetting to eat, and suddenly stopping medication. However, neurologists don't agree on a fourth factor: stress—specifically, psychological stress. Psychologist Donna Andrews and neurologist Joel Reiter believe stress can trigger seizures. And the treatment they designed is based on that belief.

Andrews's theory is that rage, panic, and worry can cause a person's brain cells to overreact. In most people, the overreactions don't lead to seizures, because they have a *high seizure threshold*—they can tolerate irregular bursts of neuronal activity. But in people with epilepsy, whose neurons are already prone to overreact, the irregular bursts can cause seizures.

At the Andrews-Reiter Epilepsy Research Program, patients are given training in relaxation and deep breathing. They're also asked to discuss the thoughts and feelings that tend to precede seizures. If patients can learn to relax and to resolve their psychological issues, Andrews explains, their neurons will stop going haywire.

Urged by my mother, I agreed to be treated at the Andrews-Reiter facility, which is located in Santa Rosa, Calif. I will forever be grateful that I did.

Andrews asked me to describe my recent seizures and the circumstances that preceded each epileptic attack. Walking through the events with her, I noticed patterns I'd never recognized before—links between my anger and my seizures that suddenly seemed so obvious. Not only had I been angry before each seizure, but each time, rather than releasing that anger, I had stifled it.

I also realized that before each seizure, I had visions of those same flashing lights. Andrews explained that the lights were *auras*, the first signs of a major seizure. If I could recognize the lights, I could do things to abort the seizure: breathe deeply, relax—anything to resolve the underlying tension. By relaxing, she said, I could decrease the activity in my brain and prevent my damaged neurons from behaving erratically.

## A MINORITY VIEW

Andrews and Reiter's techniques are not widely practiced. Most neurologists dismiss psychological treatments of epilepsy out of hand. "Taking medication is the way to stop seizures," says Susan Herman, a neurologist at the University of Pennsylvania. "It wouldn't be inappropriate for patients to reduce their level of stress. But I certainly wouldn't tell patients that it would make their lives better."

With the help of Andrews and some commonsense techniques, *my* life is certainly better. When I'm angry, instead of stifling the feeling and letting it implode, I express it by punching a pillow, going running, or stepping into the bathroom and screaming. I've also learned to recognize a warning sign—a heightened tension in my eyes—that happens before the flashing lights. And I've learned to deflate that pressure through deep breathing. I make sure to get plenty of sleep too.

My health isn't perfect today. I take a low dose of medication, and every once in a while I do have a seizure. But my head is clear, and my life is full. Epilepsy, which used to be a central fact of my life, is now a mere factoid. **CS**

**Wired Up** The human body runs on electricity, and the electrical circuits in the body are the *neurons* (nerve cells). The brain has most of the body's neurons—billions of them. From there, they fan out through the spinal cord to all parts of the body. When a neuron reacts normally, an electrical signal moves from one end of it to the other. That action causes electrical signals to move through connecting nerves.

The brain of a person who has epilepsy has pockets of diseased neurons. Sometimes they react abnormally, sending wild electrical messages to other parts of the brain, and a seizure happens.



neuron (nerve cell)