

HOW TO CALM A CHILD

A relaxation technique from the '60s -- combined with computer technology of the '90s -- is proving effective as a drug-free treatment for hyperactive kids.

By [Jim Robbins](#)

LINDA VERGARA, AN ASSISTANT PRINCIPAL of a public school in Yonkers, N.Y., wasn't sure what to do when her own son, Jon- Michael Negrón, was asked to leave the private school he attended because of behavioral problems. Experts diagnosed the 7-year-old with attention-deficit/hyperactivity disorder-- which frequently means children are disruptive in the classroom-- and recommended drug treatment. "They told me I needed to give him something to calm him down," Vergara said. She refused. The drugs prescribed for hyperactivity have side-effects, and there are concerns about their long-term use. Vergara also felt that giving her son drugs would send him the wrong message.

Instead, she turned to Mary Jo Sabo, a therapist in Spring Valley, N.Y., who uses biofeedback to treat kids like Jon-Michael, now 11. Twice a week, for half an hour each session, he sat in front of an EEG biofeedback system-- sometimes called neurobiofeedback-- with sensors placed on his scalp and earlobes to monitor his brainwaves. In this system, the patient watches a kind of video game of his brainwaves on a display. When the patient produces waves associated with concentration, the game speeds up. When the patient shows brainwaves associated with daydreaming, the game slows down. Usually by the 10th biofeedback session, the patient has begun to recognize his own brain patterns. With more sessions, the patient learns to apply this recognition to everyday life, helping him to stay focused. The gains patients make are permanent.

Biofeedback has been around since the '60s, but computers have improved the technique and made it more powerful. In addition to attention deficit/hyperactivity disorder-- which is thought to afflict up to 9 percent of U.S. school-age children--biofeedback is being used to treat such problems as closed head injuries, which can result from a blow to the skull.

As a treatment, however, biofeedback remains controversial. Even proponents stop short of calling it a cure. Joel Lubar, a psychologist at the University of Tennessee at Knoxville, has used biofeedback to treat attention deficit/hyperactivity disorder and epilepsy in more than 2000 patients. He believes the technique can help a child use brain patterns he or she doesn't normally employ, causing "increased metabolism and blood flow into parts of the brain," said Lubar. "That can help the brain heal."

Other experts are skeptical. "It is highly experimental at the moment," said Dr. Russell Barkley, director of psychology at the University of Massachusetts Medical School and an expert on hyperactivity. "We don't have any studies that say it's bad for you," he added, "but I don't think it will do any good."

Linda Vergara also was skeptical, but after seven sessions Jon-Michael was calmer and able to sit still through dinner. Waking up in the morning was easier. After 20 sessions, he stopped fighting with his siblings and began doing his homework. His grades improved.

Vergara's experience led her to try biofeedback with some students at the Enrico Fermi School for the Performing Arts and Computer Science, where she works. With a small grant, she bought a biofeedback machine, and 100 students have been trained on it in the last three years. One was Mohammed Hussein, 13, who was hyperactive and violent. "I used to be the biggest, baddest bully in school," said Mohammed, who completed 62 biofeedback sessions. "Now I'm different."

"My life was miserable," said his mother, Faten Hussein. "He was very bad. Now he's like a normal kid." Others tell similar stories. "We've seen dramatic changes," said Mary Jo Sabo. "increased attention spans. Less disruptive behavior. Fewer outbursts."

Enrico Fermi was one of the first schools in the country to use biofeedback. The equipment costs as much as \$7500, but savings come from keeping kids out of special-education classes that can cost \$25,000 a year for each child. Based on the success at Fermi, the Yonkers school board is expanding the program to other schools.

While questions remain, biofeedback researchers are encouraged. "It's like we've been given a grand piano," said Susan Othmer of EEG Spectrum, an Encino, Calif., company that does biofeedback research. "So far we've only learned to play a few keys."

For more information, write: Dr Joel Lubar Southeastern Biofeedback and Neurobehavioral Institute Dept. P. P.O. Box 10437, Knoxville, Tenn. 37919; or EEG Spectrum, Dept. P, 21601 Vanowen Street, Suite 100 • Canoga Park, CA 91303. Or visit www.eegspectrum.com on the Web.

WHAT BIOFEEDBACK CAN HELP...

In several controlled biofeedback studies, children with attention-deficit disorder showed marked progress

- An average 10-point gain in IQ scores.
- Reduced impulsivity, distractibility and hyperactivity.
- Some therapists also report success treating childhood sleep problems and pediatric migraines.

Jim Robbins is a writer in Helena, Montana, whose work has appeared in The New York Times and Smithsonian. He is currently at work on a new book about neurofeedback.