



H-W Photo/Michael Kipley

Therapist Jerry Walker measures a patient's brain waves using a quantitative EEG. During the procedure, electrodes are painlessly placed on the scalp in order to measure electrical activity. Walker then uses the topographic brain map created by the quantitative EEG to identify areas of dysregulation in brain wave activity. Then, a process called neurofeedback can be used to help regulate the brain wave activity - which has proven to be useful in treatment of attention deficit disorder, depression and anxiety.

# 'It woke his brain up'

## Neurofeedback aids doctors in treating brain dysregulations

By Kelly Wilson

Herald-Whig Staff Writer

A Quincy therapist has a new tool to aid in the treatment of attention deficit disorder, anxiety and depression.

Jerry Walker says using a process called electroencephalographic (EEG) neurofeedback, which essentially retrains the brain, has shown promising results.

"The success is amazing," Walker said. "You can see gains quicker (than by using medication alone), monumental changes much faster, and there are no side effects."

The patient first gets a quantitative EEG to create a topographic brain map to find areas of dysregulation in brain wave activity, the rate at which electrical charges move through brain cells.

"By identifying that dysregulation, that gives us a good picture of what areas to do neurofeedback on," Walker said.

There are four types of brain waves — delta, theta, alpha and beta. Walker says people who suffer with attention deficit disorder often

have an over-abundance of theta in the front part of the brain, which causes loss in focus.

During a neurofeedback session, an electrode is attached to one of the areas that needs work.

"There's no electricity going in," Walker emphasizes. "We are just influencing the natural electrical impulses in the brain."

The patient sits in front of a computer and plays what looks like a video game, and is rewarded when the brain waves are at the optimal state. The brain responds to this feedback and over time is conditioned to work at that optimal level.

"With neurofeedback, the subject is exercising the pathways in the brain that control attention and mental processing," Walker said. "As these neural pathways are exercised, patients develop a sense of what concentration feels like, and they also realize what it feels like when they drift off."

Over time, anywhere from 20 to 60 sessions, research shows the brain is retrained and changes will be permanent.

"The overall goal of

neurofeedback is to improve mental flexibility so that a person can produce a mental state appropriate to the situational requirement," Walker said.

Walker says one mother of a child who had neurofeedback explained the results in this way: "It woke his brain up."

Robert Gurnee, director of the Attention Deficit Disorder Clinic in Scottsdale, Ariz., says 80 to 90 percent of patients respond well, as measured by computerized tests, rating scales and grade.

"There are rarely any side effects," he said. "IQ increases 9 to 15 points and often other disorders improve simultaneously such as depression, anxiety, head injuries and learning disabilities."

Walker trained in Scottsdale and other areas of the country and recently started providing EEG neurofeedback to his Quincy patients. He is the only one who offers the service locally.

"Some local clinicians do biofeedback," he said. Biofeedback is mainly used for anxiety reduction and muscle relaxation, and EEG neurofeedback is much more

sophisticated.

EEG neurofeedback has been around for 20 to 30 years but has become more sophisticated in recent years. While it has been shown to improve many conditions, including epilepsy and head injuries, Walker says he's focusing on attention deficit disorder, depression and anxiety.

"Those are the areas I'm most comfortable with now," he said. "I can see it developing. Right now, they're seeing success with neurofeedback on autism."

Walker says EEG neurofeedback offers some patients an alternative to medication, while in some cases it is used in combination with medication.

"Behavioral therapy also is required with attention deficit disorder, and in depression we use cognitive therapies as well," he said.

For more information about EEG neurofeedback, call Jerry Walker Therapy Services at 228-6194.

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