

Aerobics For The Brain

Qualities Of Life: Health: Neurofeedback
Patients will their way to a healthier place

By Dan Dinello for the Chicago Tribune <http://tinyurl.com/2c5vgn>

After 20 years of anti-depressant drugs and therapy, Lisa Ferguson still struggled with anxiety, poor sleep and panic attacks. Then she met a doctor who suggested neurofeedback. Ferguson gave it a month, saw improvement and stuck with it.

"My sleep is incredibly better," she said. "I can function during the day without ruminating, without worrying. It's been wonderful."

Aerobics for the brain, neurofeedback is a mental exercise designed to optimize brain function by altering dysfunctional brain-wave patterns.

The patient sits in deep concentration with electrodes attached to her scalp and ears and wired to a computer. By focusing her mind, she controls the wavy lines produced by her brain's electrical activity on a monitor.

Although it resembles a 1950s science fiction film, this scene unfolds with increasing frequency in clinics throughout Chicago and around the country.

"The objective is to normalize brain waves," said Dr. Kyle R. Bonesteel, assistant professor of neurology at Loyola University Medical Center and director of Neurohealth Associates. It was Bonesteel who suggested treatment to Ferguson.

Neurofeedback is based on a kind of brain mapping called quantitative electroencephalography, or QEEG. It involves measuring brain-wave frequency that correlates to mental states. Cognitive disorders, such as attention-deficit disorder (ADD) or anxiety, show up as aberrant brain waves.

"By consciously reshaping the aberrant brain-wave pattern, the patient retrains her brain, thereby reducing symptoms while enhancing concentration," Bonesteel said. "Conscious control becomes unconscious control as a result of positively reinforced repetition. The brain learns to regulate itself."

Depending on the condition and its severity, neurofeedback treatment might take 20 to 40 or more one-hour sessions. But positive results seem to stick.

Dr. Elsa Baehr, director of NeurQuest Ltd. in Skokie, has treated

people with neurofeedback therapy for 15 years. "We have data on patients 5 years, 10 years, 13 years after treatment," she said. "The condition is holding. They're not depressed. It's been a very effective treatment."

Dr. J. Peter Rosenfeld, professor of psychology at Northwestern University's Institute for Neuroscience, worked with Baehr to develop the original protocol for treating depression with neurofeedback. Despite what he calls "pretty impressive" clinical results, he insists that more control-group research is required.

Rosenfeld believes that the strongest scientific case for neurofeedback therapy has been made with ADD and attention-deficit-hyperactivity disorder (ADHD), but he cautions that some "neurofeedback people make claims that are silly and unfounded. It's absurd to think that training EEG frequencies will cure any given psychopathology."

Bonesteel agreed that it's not a panacea but noted that neurofeedback, used as part of a multifaceted treatment plan, improves a variety of specific cognitive impairments besides depression, ADD and ADHD. In his clinic, he helps people with insomnia, traumatic brain injury, post-traumatic stress, chronic fatigue, mild autism and epilepsy – often without medication. Research indicates that neurofeedback produces some of the same brain-wave changes as drugs used to treat ADD and ADHD.

"You can chemically condition the brain with pills or do it with neurofeedback," Bonesteel said. "But neurofeedback trains more specifically than pills, without the side effects. It also changes the brain for the better in an ongoing way."

Julie Hancher's 8-year-old son, Nathan, who experienced many problems at school, was diagnosed with ADHD. "He was having trouble focusing and being attentive to the teacher," said Hancher, who lives in the northwest suburbs. "He was getting angry and having trouble completing his assignments."

Taking large doses of Concerta, a timed-release variation of the same ingredient in Ritalin, "was making him too lethargic and sleepy," so she and her husband were desperate for an alternative. After extensive research, they took Nathan to Bonesteel's clinic. Neurofeedback for children often employs a video-game interface, such that controlling brain waves takes the form of slowing or speeding up a rocket ship or race car.

"I just play the game, it's fun," Nathan said. He goes once a week for an hour. "We saw gradual improvement," Hancher said. "He's more

attentive, with improved coping skills and less anxiety. He takes less medication, and he's totally focused in therapy. He's even made the honor roll."

Each neurofeedback sessions costs around \$100, so the total cost of treatment depends on the number of sessions. But some progress can be expected in 12 to 15 treatments. If there's no improvement by then, the therapy is discontinued.

Health insurance typically covers neurofeedback done in conjunction with talk therapy and behavior modification.

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To find trained neurofeedback practitioners in the Chicago area, see Neurohealth Associates (<http://www.nhahealth.com>), NeuroQuest Ltd. (neuroquest.net), or Neurofeedback Centers of Greater Chicago (eegchicago.com).