

WHAT'S POSSIBLE WITH NEUROFEEDBACK: ONE CHILD'S STORY

"My son P had been having difficulty at home and school managing throughout the day, struggling with social interactions, and staying focused at school. We had tried many things including 5-6 different medications, none of which helped. Most made him more agitated, aggressive, angry and less able to focus. The last straw was when he asked me to kill him because his life was way too hard. He is only seven.

He began neurofeedback in April. The results have been amazing. He now looks at the world in a totally different perspective. The glass is now half full, not empty. He is able to handle frustrations and challenges without getting angry and aggressive. Social situations have also become much easier for him to negotiate. He no longer feels the need to be in control of everything. He is now willing to put his ideas on hold, and follow through with what others want to do. His laughter is one of the most beautiful sounds and something we rarely heard.

To all parents who are lost and torn and feel like they're on a merry-go-round that doesn't stop, please take a look at the alternatives. Neurofeedback has certainly had a huge impact on our family. "

S.F., Foxboro, MA

Neurofeedback: EEG Biofeedback



With electronic sensors attached

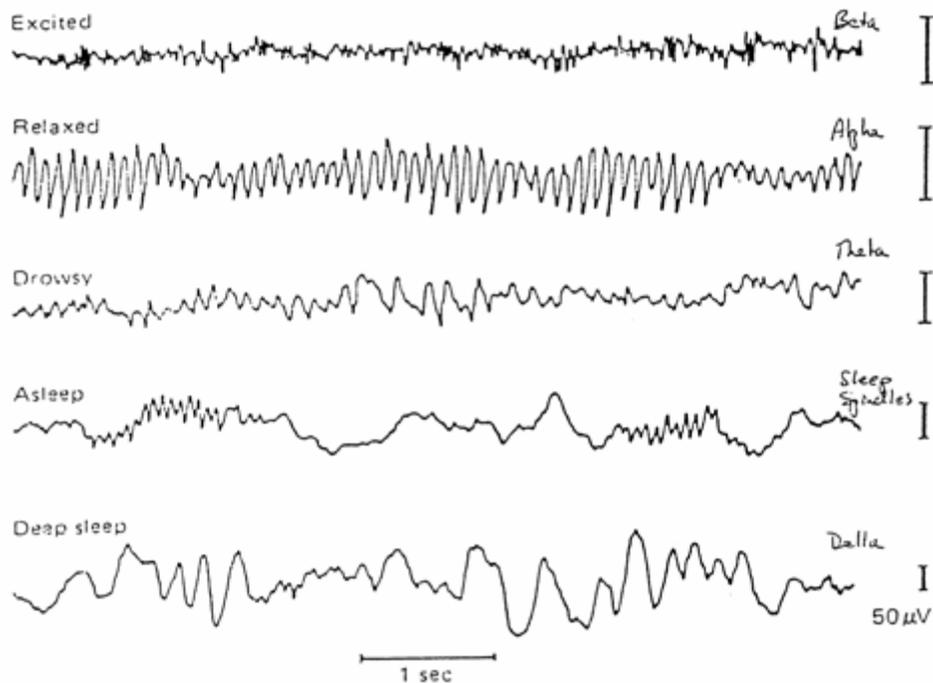
to your head, advanced brain imaging technology shows you your brain at work. Intently watching the computer display, you begin to alter this activity. You see the changes on



the screen milliseconds after they occur in your brain, and hear computer tones to signal the change the moment you succeed. This instantaneous information helps you gain increasing control and mastery. You are changing your brain...

This is not science fiction. It is real neuroscience, made practical, and available in our center to help you meet your goals. It is a research-supported way to train your brain to sharpen attention, relieve anxiety, and improve mood, without medication.

Research has shown that many kinds of psychological difficulty are associated with problems in activation in various areas of the brain. Patterns of underactivation, over-activation, or disturbed coordination of brain activity have been found with many kinds of symptoms in brain imaging studies. This is true of attention deficits, anxiety, depression, autism spectrum disorders, tics, and learning disabilities.



The electroencephalograph (EEG) is a way to show and measure brain activation.

The EEG shows momentary increases and decreases in activity only milliseconds after they occur in the brain area being monitored. Over twenty years ago,

neuroscientists discovered

that we are able to alter these patterns of activation in the brain if we can see the momentary changes the instant they occur. This process is called biofeedback - getting immediate information about our biological processes.

Many years of experience in clinics all over the world and numerous scientific studies have shown that this process of EEG biofeedback is an effective means to improve, even normalize, attention in individuals with ADHD, to elevate mood in those with depression, to facilitate recovery in those with addictions, to relieve anxiety, improve cognitive function, and to decrease seizures.

Frank Duffy, MD, Neurologist, Head of the Neuroimaging Department and of Neuroimaging Research at Boston Children's Hospital, and Harvard Medical School Professor, conducted an independent review of the literature on neurofeedback for Clinical Electroencephalography (2000). He summarized his findings as follows:

“The literature, which lacks any negative study of substance, suggests that EEG biofeedback therapy should play a major therapeutic role in many difficult areas. In my opinion, if any medication had demonstrated such a wide spectrum of efficacy, it would be universally accepted and widely used. “

In a recent paper *Update on attention-deficit/hyperactivity disorder* published in [Current Opinion in Pediatrics](#) Katie Campbell Daley reviewed the research and practice standards on treatment of ADHD. Dr. Campbell serves on the staff of the Department of Medicine, Children's Hospital Boston and in the Department of Pediatrics of the Harvard Medical School. She concluded:

"Overall, these findings support the use of multi-modal treatment, including medication, parent/school counseling, and EEG biofeedback, in the long term management of ADHD, with EEG biofeedback in particular providing a sustained effect even without stimulant treatment...parents interested in non-psychopharmacologic treatment can pursue the use of complementary and alternative therapy. The therapy most promising by recent clinical trials appears to be EEG biofeedback."

A recent special issue of [Child and Adolescent Psychiatric Clinics of North America](#) was devoted to emerging interventions that affect brain function. Neurofeedback was featured in seven of the ten chapters in the volume. The volume editors provided an overview and clinical perspective on all the approaches presented. About neurofeedback they concluded:

"EEG biofeedback meets the American Academy of Child and Adolescent Psychiatry criteria for clinical guideline (CG) for treatment of ADHD, seizure disorders, anxiety (OCD, GAD, PTSD, phobias), depression, reading disabilities, and addictive disorders. This suggests that EEG biofeedback should always be considered as an intervention for these disorders by the clinician."