

# WHAT IS NEUROFEEDBACK?

Consider a child learning to catch a ball. The key to the child learning this skill is that he or she receives immediate visual, auditory and tactile feedback. This feedback, along with practice, results in the child becoming better and better at catching a ball. With Neurofeedback, “training your brain” can be almost that easy.

Neurofeedback (also known as EEG Biofeedback) makes a physiological signal “big enough” for us to be aware of it. By making us aware of the changes in various physiological responses, Neurofeedback enables us to gain control over the physiological responses which may have a negative impact on our day-to-day lives.

# HOW IS NEUROFEEDBACK PERFORMED?

Each session begins with the placement of a few electrodes on the scalp—with gel and a comfortable headband. These electrodes are, in turn, attached to an EEG computer system which has a video monitor and sound capability.

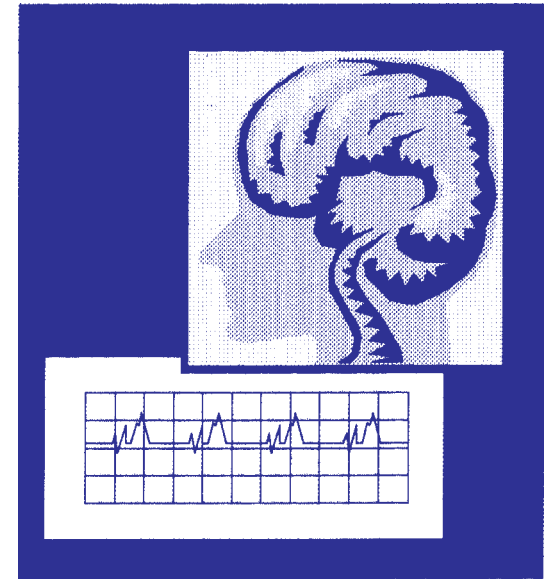
Through a special computer software program, the brainwave patterns are quickly represented on the computer system. These pattern variations become the critical feedback that allows us to *learn* how to control the production of brainwaves (e.g. learning to catch a ball). The mind can be trained to recognize brain states (or conditions) and regulate itself, if given this *immediate* feedback about what is happening. Once a person becomes familiar with the process, EEG Biofeedback is very much like playing a computer game.

Alan T. Fisher, Ph.D.  
Psychologist  
5656 S. Staples, Suite #302  
Corpus Christi, Texas 78411

# NEUROFEEDBACK

(EEG BIOFEEDBACK)

TREATMENT  
FOR ADHD &  
LEARNING DISABILITIES



Alan T. Fisher, Ph.D.  
Psychologist

5656 S. Staples, Suite #302  
Corpus Christi, Texas 78411  
(361) 992-9624

# HOW NEUROFEEDBACK CAN HELP

## ADHD

- Help sustain concentration or attention.
- Reduce susceptibility or distractions.
- Improve ability to listen when spoken to directly.
- Improve organization skills.
- Reduce forgetfulness.
- Reduce overactivity.
- Reduce excessive talking.
- Reduce need to interrupt others.
- Improve ability to await turn.
- Reduce impulsivity.

## Learning Disabilities

- Improve performance on mental activities including verbal reasoning, numerical reasoning, and comprehension.
- Improve performance on tests of verbal and non-verbal intellectual skills.
- Improve concentration.
- Improve homework and class assignment completions.

# NEUROFEEDBACK

## AN EFFECTIVE TREATMENT FOR ADHD & LEARNING DISABILITIES

EEG BIOFEEDBACK... is a cutting edge treatment approach which is supported by a decade of research. This research identifies EEG Biofeedback as an effective and long term remediation of the behaviors associated with ADHD and LD. Years of research have developed the EEG protocols which are being utilized in clinical practice by psychologists today. Thousands of children have received EEG BIOFEEDBACK treatment by more than 300 health care organizations.

EEG patterns associated with ADHD and LD include an abundance of “slow brain wave” activity and insufficient “fast brain wave” activity. Children or adolescents with ADHD and/or LD work hard to focus their attention continuously in order to read, to complete math problems, to process a parent’s or teacher’s instructions or other activities. These efforts to continually focus require an increase in fast brain wave activity (BETA WAVES). Children or adolescents with ADHD or LD, experience interruptions in their concentration as a result of an abundance of slow wave activity (THETA WAVES) and not enough fast brain wave activity (BETA WAVES).

EEG BIOFEEDBACK treatment “retrains” the child’s/adolescent’s brain waves to decrease “slow waves” and increase “fast wave” activity. Following this treatment research indicates that behavioral changes include a DECREASE in inattention/distractibility, overactivity, excitability, and failure to complete activities (e.g. classroom assignments and homework—Lubar, 1995).

Children/adolescents with LEARNING DISABILITIES (many of which have ADHD) successfully completed EEG-BIOFEEDBACK treatment resulting in sizeable increases (up to 15 points) in IQ scores (e.g. increased scores on abstract reasoning, numerical reasoning, comprehension, etc. – Tansey 1990, 1991).

## BETA

### “Fast” Brain Waves

13-30 Hertz (cycles per second)

This brainwave pattern is indicative of a person who is alive, alert, concentrating, anxious, tense, and/or lively.

### “Slow” Brain Waves

4-7 Hertz

The person representing this brainwave pattern is between a state of very relaxed wakefulness and deep sleep. This person may be described as dreamy, drowsy, dull and/or hazy. Vivid imagery and memories may be experienced with this brain pattern.

## THETA