



EEG Neurofeedback

What it is & what it can do for you & the people you love

What is Neurofeedback?

It is biofeedback for the brain and the body. It is a painless and drug-free way of helping an injured brain return to a healthy state. Neurofeedback helps the brain to do a better job of regulating itself *and* the body.

Fatigue, confusion, ADD, depression, and fibromyalgia are not “lack of willpower.” They are symptoms of brain injury and can be addressed with EEG Neurofeedback.

We specialize in LENS, a low-energy neurofeedback system which commonly produces observable results more quickly than more traditional biofeedback techniques. However, *both* systems have advantages.

LENS neurofeedback requires no effort from the client. Like AAA, it is a rescue service, intended to pull you out of the ditch and speed you on your way. It doesn’t teach you how to drive, it simply rescues and repairs.

Traditional neurofeedback is an educational and training process. It teaches you how to recognize, control and work with your own brainwaves in your daily life.

What are Brainwaves?

Like other computers, the brain gives off tiny impulses that appear as electrical waves. The raw EEG can be separated into waves that vibrate at different rates or *frequencies*; *beta* (fastest) to *alpha*, *theta*, and *delta* (slowest).

Brainwaves should be faster at front, slower at back; faster at left and slower at right. A “backwards brain” (slow at front and left, fast at back and right) tends to be depressed *and* anxious. Brainwave slowing suggests brain injury and impairs normal brain function.



Beta 13-40 Hz^a. Alertness, focus, and quick thinking. Typical of fully functioning adult frontal lobes. Too much beta (especially at back or right of head) brings anxiety and sleep problems.



Alpha 8-12 Hz. Relaxation, daydreams, reverie. Frontal alpha causes depression and anxiety, and is typical of fibromyalgia and “fibro-fog.”



Theta 4-7 Hz. Creativity and deep memories. Appears as drowsiness increases. Too much theta is linked to ADD and depression.



Delta 0.5-4 Hz. Normal in babies and in very young children. In normal adults, seen only in deep sleep. When strongly present in waking adults, associated with severe fatigue, fogginess, and depression.

a. Hertz or “cycles per second, a measure of wave speed.

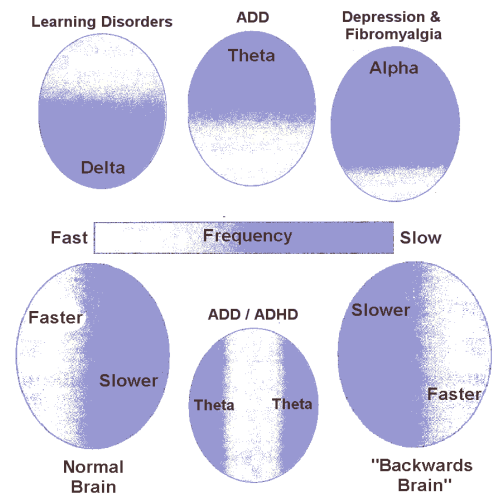
What is Brainwave Slowing?

Faster brainwaves focus attention, enable planning, organization, and quick wits. They also need more oxygen and more nutrients than slower, dreamier waves. After trauma, fever, bad diet, or exposure to drugs / toxins, brainwaves may slow to whatever energy level can be supported based on available nutrients.

The slower the brainwaves, the more foggy, fatigued, and depressed a person may be. Brainwave slowing is like hibernation, a great way to *survive*, but a poor way to *live*.

“Hibernating” or traumatized brain cells may not know it is safe to wake up again or even how to do it. Neurofeedback can reawaken and help the brain, and the body it controls, along the road to recovery.

Brain Frequency and Hemispheric Anomalies



Normal vs. Brainwave Slowing. Frontal *alpha* of 12 Hz can cause “functional” depression; you may feel terrible but still manage to get up and go to work.

Brains with frontal dominant frequencies of 8 Hz or slower (*theta*) may be unable to drag out of bed at all.



What is Involved?

The LENS neurofeedback process involves three small sensors and an extremely low-power radio wave (a million times smaller than that of a cell phone).

- **Brain Mapping:** Detailed client history and mapping of 1-19 sites, depending on patient sensitivity / reactivity.
- **Offset Evaluation:** Tests suitability for LENS treatment and probable speed of response.
- **Neurofeedback:** Entirely passive, there is no training of client response. Results are often seen within three to five sessions.

What Are the Results?

Clients routinely report greatly reduced pain and anxiety, with greatly improved clarity, organizational skills, emotional self-control. You can expect improvement in a range of conditions as diverse as traumatic head injury (TBI), migraines, fibromyalgia and PMS. Depression and ADD often improve as side-effects of treating physical disorders.

See www.aboutneurofeedback.com for more information including an extensive bibliography of research articles in the medical literature.

For more information on LENS, see Resources at the LENS website: www.ochslabs.com. See also *The Healing Power of Neurofeedback*, by Stephen Larsen, Ph.D.

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Multiple symptoms from the list below (with no obvious physical explanations) may indicate injury to brain or central nervous system. Brain injury can occur in the course of learning to walk, through sports or auto accidents, with stroke, infections or high fever, environmental toxins / drugs (including MSG and artificial sweeteners), following abuse or severe emotional stress.

Sensory and Emotional Issues

- Sensitivity to lights or sound
- Loss or change in sense of smell
- Problems focusing / converging eyes
- Problems following conversations
- Problems with sense of touch
- Sudden, unexplained changes in mood
- Loss of sense of humor
- Loss of former interests / recreations

Memory and Focus

- "Fogginess" and confusion; lack of clarity
- Forgetting what you are doing
- Difficulty concentrating and focusing
- Difficulty learning new things
- Difficulty learning from experience
- Difficulty reading or comprehending text
- Problems with sequencing and prioritizing
- Procrastination / lack of initiative
- Not finishing projects
- Disorganization (room, office, paperwork)
- Getting lost in daydreams
- Not understanding what was said or asked
- Fatigue during the day
- Problems with speech or finding words

Pain and Other Physical Dysfunction

- Unexplained pain in head or limbs
- All-over body pain; fibromyalgia
- Nausea, dizziness
- Insomnia or disturbed night-time sleep

ADD
Migraine
Depression
Fibromyalgia



*Sometimes it isn't you.
It's your brain.*