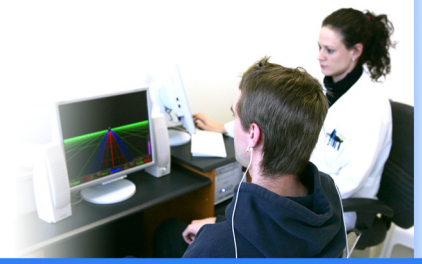


Neurofeedback

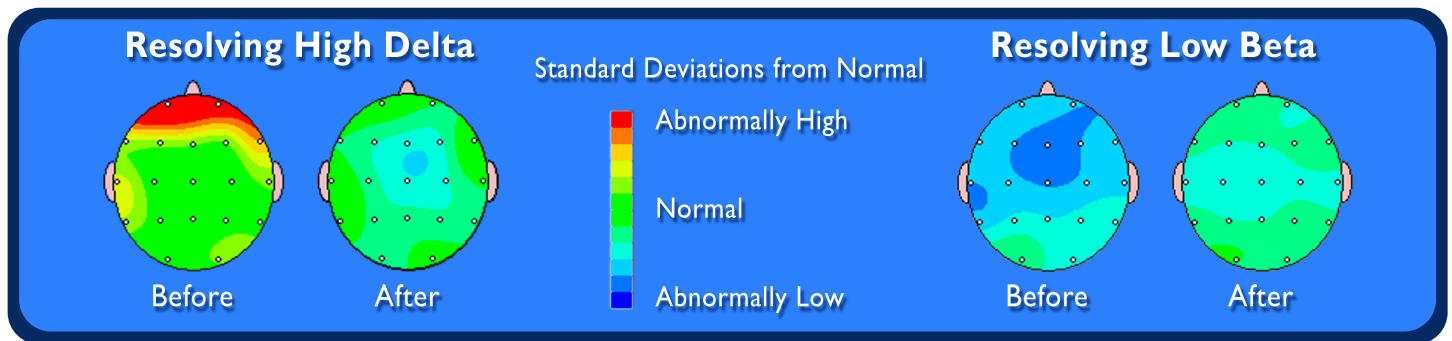


Your brain weighs about 2 pounds, yet it utilizes almost 50% of all of your body's blood glucose. It utilizes all of this glucose to create electrochemical energy, or simply electricity, to enable your brain to carry out all of its functions, including learning and emotional regulation.

This electrical activity can be recorded in the form of brainwaves by placing passive non-invasive electrodes (sensors) on the head. Brainwaves occur at different frequencies, from the slow brainwaves, Delta and Theta to the fast brainwaves, Beta, as measured in cycles per second.

Slow brainwaves (Delta) reflect the brain is under-aroused or functioning at reduced capacity for mental efficiency. This occurs during sleep and daydreaming. When your brain is producing predominantly fast brainwaves (Beta), it is more fully aroused; we are alert, focused, and networks of neurons in the brain are engaged to fully process information. The faster brainwaves (Beta) need to be dominant for controlling attention, behavior, emotions, and learning. If one is producing too much of the slow brainwaves (Delta or Theta) or too few of the fast brainwaves (Beta), then the brain will be operating at reduced capacity.

Neurofeedback training/treatment is simply brainwave biofeedback. With neurofeedback training a patient can learn to improve and strengthen brainwave patterns to the more dominant faster brainwaves essential for focus, organization, follow through, and basic learning functions.



A QEEG is conducted first, which records brainwave patterns from all over the head and it detects if any regions are malfunctioning. Then 1 or 2 electrodes (sensors) are placed on the scalp over the abnormal area and the patient's brainwaves are recorded and displayed in front of him on a computer screen in the form of a game.



Normally we cannot accurately influence our brainwave patterns because it is beyond our level of awareness. But when you see your brainwaves on a computer screen in front of you, almost instantaneously as they occur, you can influence them in a positive direction.

For example, your brainwaves are converted into a computer game of a car driving down the highway. The moment you cause your brainwaves to shift to a faster, healthier frequency, the car begins to speed up on the computer screen and an auditory tone goes off. The auditory tone is triggered every half second you sustain this "response".

There is a new awareness the patient develops as this occurs, almost like learning "the feeling of balance" on a bicycle. Though the disorder may be biological or neurological in nature, you can retrain your brain to normal or improved functioning whereby symptoms decrease or resolve. What the patient learns in the clinic during the treatment sessions are practiced or integrated into their everyday life situations until it becomes their natural state. Drugs can be harmful and sometimes even dangerous with only temporary improvement for conditions such as ADD/ADHD. However, neurofeedback is safe and can lead to long term improvement, unlike the drugs, because neurofeedback uses a learning process that strengthens and develops the synaptic connections in the brain.



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