RAINMAKERS
MAKE YOUR IMPOSSIBLES.....POSSIBLE

What is Neurofeedback

Brainwaves: The Key to Change

At the root of all our thoughts, emotions and behaviors lay. the intricate networks of communication among the billions of neurons within our brains. A measurement of this communication activity, like the rhythm or pulse of a flowing river, is the brainwaves. Brainwaves are tiny pulses of the electrical activity that are produced as the neurons communicate with each other. By influencing these electrical patterns, we can change the brain's communication. This means that when there are patterns set up within the brain that are not working correctly there will be corresponding problems. As an example: when you experience stress and you feel the reaction occur in your body such as a stomach ache, headache or some other symptom, your brain has triggered within itself a pattern that results in these symptoms. These patterns are sometimes referred to as pathologically stable patterns. These pathological patterns can arise from a variety of possible stressors, i.e. abuse, physical trauma, emotional trauma, chronic continuous stress, worry, anxiety, etc. As a response to the perceived threat, the brain has adopted a protective pattern in an effort to deal with the past (it can be just a memory) or present trauma. The brain is simply doing the best it can to protect us and enable us to deal with the real or unreal dangers and threats it perceives. A wide variety of problems and disorders can be traced back to this underlying problem.

Methodology

Neurofeedback is a technique to train the brain to regulate functions of body and mind. When the brain is not functioning optimally, this is often reflected in mental or physical problems. Likewise, many cognitive, emotional, or bodily issues can be traced back to a poorly functioning brain. Training your brain to improve its function can help it take better care of you, just like physical exercise can train your body. When the brain is not functioning well, this is usually visible in an EEG (electroencephalogram). Restoring function to the brain by means of Neurofeedback can alleviate a large variety of physical and emotional problems. Sleep patterns may improve, allowing increased alertness during the day. Neurofeedback can reduce anxiety and depression as well as syndromes such as migraine or chronic pain. Hyperactivity, attention deficit, post-traumatic stress, and emotional instability are also frequently visible as abnormalities in the EEG and as such can be treated.

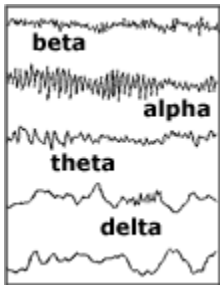
Neurofeedback treatment can also help with certain specific syndromes and issues, including traumatic brain injury, seizures, autism, and stroke cases. In these instances, the training may not eliminate the cause of the problem, but rather assists the brain to function normally despite the injury.

One of the technique’s great strengths is that it draws upon the brain’s own ability to learn and adapt. Neurofeedback therapy is absolutely non-invasive, and rather than trying to affect the body from outside, it helps the brain to deal with any problems at the foundation. Neurofeedback treatment simply makes certain characteristics of the brain’s operation visible to the conscious mind.

Due in part to the nature of the treatment, Neurofeedback training can help both children and adults. In fact, thanks to the innate flexibility of the growing child's mind, it is especially effective for children. Hyperactivity, attention deficit, temper tantrums, and conduct problems are more often exhibited by children than by adults, and can be effectively treated. Furthermore, once the brain has learned to function normally, the effect is usually lasting, and relapse rarely occurs.

Because Neurofeedback therapy trains the brain to operate effectively, its applications are not limited to recovering from injury or coping with problems. Neurofeedback training is also valuable to bring the brain back on track after day-to-day stress, or to facilitate peak performance, for example, for professional athletes or corporate executives. People practicing meditation also report an enhanced ability to quiet racing thoughts and deeper, more profound, meditation experiences.

About the Brain - Brain Waves



Different brain wave frequencies, called bandwidths, relate to different mental states. They are named after letters of the Greek alphabet. Neurofeedback therapy is used to reduce or increase specific brainwave frequencies depending on the problem.

Delta is the slowest frequency of brain wave activity. Frequency is a measurement of the oscillations, or the cycles per second, of the brain waves. This electrical activity is hypothesized to emerge from vast aggregates of neurons as they communicate and process information. The source of this activity is considered to be the postsynaptic changes in electrical potential along the membrane of the dendrites. Delta is the slowest brain wave and is measured from .5 to about 4 cycles per second. Delta is only seen in the adult EEG in the deep sleep state that occurs within the first two hours of the sleep cycle. If it is seen in the waking state in an adult, it could indicate some type of abnormality.

The next brainwave bandwidth is **Theta**. Theta occurs between 4 and 8 cycles per second. Theta in the adult EEG can indicate drowsiness, it-can also indicate some abnormalities. Sometimes people with head injuries will show excessive Theta activity either at the sight of the injury or other areas of the brain. Theta has also been found to be outside the norm in some children with ADD and ADHD and sometimes in children with learning disabilities.

The next bandwidth is **Alpha**. The mental state of Alpha is similar to putting the clutch in before shifting the gears; it is just sort of a holding pattern. Approximately Ninety-five percent of the population has a peak Alpha frequency with eyes closed and that is considered very normal. Alpha predominance essentially represents a brain that is quiet and at rest. An important point is that Alpha ranges from 8 to 12 cycles per second. There is some research that shows a difference in the mental activity of; let's say, 8 cycles per second Alpha and 12 cycles per second Alpha. In other words, you can do some focused thinking at 12 cycles per second Alpha, that you can't do at 8 cycles per second Alpha. We are finding that the bandwidths are actually very broad and are used to identify the morphology, that is, the shape of the waves. Specific frequencies within those bandwidths may correlate with slightly different mental activity.

Beta is anywhere from 13 cycles per second all the way on up to over 32 cycles per

second. This is where things get very interesting. Low frequency Beta, between 13 and 15 cycles per second, has also been referred to as "sensory motor rhythm" and it seems to be a very important rhythm. It has the ability to organize the brain in terms of biofeedback. It is being used for ADD and learning disabilities, as well as a variety of emotional problems, and for peak performance models. It has to do with the coordination of many areas of the brain. By teaching an area of the brain to make more low frequency Beta activity, it actually effects many pathways within the brain in many different ways. We use it often for sleep disorders. From 15 hertz on up, we speed up in frequency so the brain becomes more focused, more concentrated ... up to about 20 hertz. From 20 hertz on, too much Beta activity can backfire. What starts to happen is that there is too much activity, too much electrical noise occurring in the brain. You actually see functioning, organizational and concentration abilities start to deteriorate from there on. However, some researchers are now looking at extremely high frequencies of Beta... going from the 100 cycle per second range, all the way up to the 120-hertz range in specific areas of the brain... primarily the temporal areas, which are on the sides of the head. They are looking at those frequencies because they suspect there is a correlation between those very high frequencies and psychic abilities, as well as advanced levels of meditation where the meditator experiences a dramatic shift in consciousness known as transcendence.

RainMakers are passionate about
The Human Technology – Neurofeedback & Biofeedback and will lead you through an adventure of powerful transformation through their innovative courses in business, health, education and community development.

Your dynamic, friendly RainMakers will guide you to

- **"Experience"** rather than explain productive mental states
- Open up new attitudes and possibilities
- Simplify Peak Performance for you to excel in career & life.

Introducing for the very **First time in India** – **Neurofeedback & Biofeedback** working in tandem with the discoverer.

Welcome to the world of Excellence and surf the Wave of the Future!!!

Simplifying Peak Performance (SPP)

Peak Performance & Excellence demands Mental Toughness.

Mental Toughness is defined as

"The Ability to remain Adaptable, Flexible in the present, while staying anchored to the main goal"

Measurements of these apparently subjective qualities are possible at RainMakers. These measurements provide a sustainable way of being mentally tough.

With Neurofeedback & Biofeedback we scientifically Train the Brain for Peak Performance & Excellence.

SPP has three aspects:

- Improve systems involved with generating energy – **CBB(Competence Begins with Balance)**
- Improve systems involved in distribution of energy in brain – **BSA(Building Sustainable Awareness)**
- Improve Actual usage of energy in Brain for Performance enhancement – **EDIP(Enhancing Dexterity in Processing)**

We provide services in three segments:

Academic Institutions: For Peak Performance, Learning Difficulties, and Learning Disabilities

Organization: For Recruitment, Peak Performance

Clinical: For Migraine, Stress, Anxiety, Depression, Addiction, Hypertension, Memory difficulties, Epilepsy, Asthma/wheezing and Chronic Pain.

For more information kindly call us…

RainMakers

I Floor, A. V. Church Road,
Vannandurai, Besant Nagar,
Chennai – 600 090
Ph: 91 44 6457 8167/ 91 94440 57017/ 91 99401 07757.
Email: neurofeedback@vsnl.net