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Neurofeedback (NFB)

You couldn't work without your brain. It is the master control panel for our mind and body. It is responsible for everything you do - waking in the morning, remembering who you are and where you live and feelings of love, happiness or sadness. During the past two decades, neuroscientists have discovered that the human brain, even when fully mature, is far more plastic, changeable and malleable than we originally thought. It turns out that the brain at all ages is highly responsive to environmental stimuli and that connections between neurons are dynamic and can rapidly change within minutes of stimulation.

EEG Neurofeedback is a form of operant conditioning, where visual stimuli, sounds, or scores are employed to reinforce voluntary control over EEG patterns. With Neurofeedback you learn to modify your brainwaves. Sensors are placed on the scalp to measure activity. Neurofeedback provides you with direct feedback about the state of particular brainwave activity. The feedback can be sound or visual images on a computer monitor or stimulation of the skin (e.g. vibration) that lets you know about your brainwave activity. Basically, it is an intuitive process in which the normal mentally driven fluctuation in brainwave amplitude is reinforced by the feedback of tone and picture. You come to identify the subjective mental state that coincides with the feedback and hence are able to prolong the time in that state as guided by the feedback. This process is in some extent unconscious. When you do a good job the animation (e.g. film) works, otherwise it stops. This way the brain learns to control and modify brainwave activity. This amazing technology not only reshapes the brain, but the way we approach serious mental health problems. When we change the electrical patterns we initiate system wide effects, including changes in brain regulation, flow of neurotransmitters and hormones, in muscle tension and respiratory rate. Thus you can overcome inefficiency and dysfunction of your brain.

Since the first reports of Neurofeedback treatment in ADHD in 1976 many studies have been carried out investigating the effects of Neurofeedback on different symptoms of ADHD such as inattention, impulsivity and hyperactivity. There are studies now emerging for depression, anxiety and panic, Asperger's and autism. Importantly, there is now considerable work being done on Traumatic Brain Injury (TBI) and concussion. Neurofeedback has now been shown in a meta-analysis of controlled research studies, carried out in a number of countries world-wide, to have the highest level of efficacy for the treatment of ADHD. This means that neurofeedback can be considered „Efficacious and Specific“ (Level 5). As noted above Neurofeedback can treat many conditions including **ADHD, autism, mood swings, anxiety disorders, sleep problems, brain injuries, epilepsy** and **addiction**. For a list of publications reporting on NFB for different symptoms and disorders the reader should refer to the existing literature at www.isnr.org.

In literature and in my experience I would talk about 40-60 sessions to be taken, especially when symptoms are very chronic and you want progress to be consolidated. To stop therapy also depends on when you are satisfied with the outcome. In some cases fewer sessions are possible and the origin problem doesn't matter any longer or has disappeared. Of course treatment progress is enhanced if people in the environment of you remain positive, complimentary and supportive. And last but not least: Keep a reasonable lifestyle.

Medication alone (without supportive therapies) had poor long-term outcomes and benefits of such treatment are normally in the short-term. In contrast to the lack of long-term effects using medication, Neurofeedback has now been shown in controlled research to have a long-term beneficial effect on different symptoms. Therefore a therapeutical approach for the above mentioned conditions should be multimodal.