

Informed Consent for qEEG and Neurofeedback Training

Quantitative EEG & Brainwaves

Quantitative EEG, sometimes referred to as brain mapping, is the measurement through digital technology of electrical patterns at the surface of the scalp which primarily reflect cortical electrical activity or “brainwaves”. Brainwaves occur at various frequencies. Some are fast, and some are quite slow. The classic names of these EEG bands are delta, theta, alpha, and beta.

Neurofeedback is a form of biofeedback training which uses the EEG (electroencephalogram) as the primary instrument used to control either visual, auditory, or tactile feedback. This feedback is used to produce learning in the brain. This learning can result in better brain adaptation and self-regulation. It is important, however, that you are aware of, and consent to, the process of this form of training. There is some research support for efficacy in the treatment of many disorders such as ADD/ADHD, anxiety, depression, autism, mild traumatic brain injury, obsessive-compulsive disorder and others, but further research is ongoing in many of these areas. I can provide a bibliography of the research done to date if you would like to have this, or you can consult www.isnr.org (the website of the International Society for Neurofeedback and Research) for a comprehensive neurofeedback bibliography.

Neurofeedback training is done through the use of a sensitive electronic instrument called an electroencephalograph (EEG) that measures the frequency and strength of an individual’s brain electrical activity and immediately sends this information to a high-speed computer. Almost instantly, these brainwaves signals are processed by the computer and presented to the individual in the form of both visual and auditory feedback. Using sophisticated computerized programs, the clinician then assists the patient in learning how to use this “neurofeedback” to both recognize, and better regulate, their brainwave patterns. With children, the computer programs sometimes take the form of games. With continuing feedback, coaching, and practice, the patient learns to produce the desired brainwave patterns. At first, the changes in brainwave activity are brief and transitory, however, within a relatively short period of time, new patterns become more firmly conditioned in frequency ranges associated with better performance and overall health. Once the patient has practiced enough to be skilled at focusing and has reconditioned their brainwave pattern, training is concluded.

Your personal response to neurofeedback training or your outcome cannot be predicted. In our experience, each person’s journey and results vary, and your commitment to the program is the most important aspect. Our commitment to you is to provide the best possible training, and to address your questions and concerns openly and with integrity. It is important that we regularly monitor progress and reassess as needed, to determine whether training should continue. To that end, you will be asked to complete frequent evaluations that will measure the target symptoms that we will be tracking. Your ability to be as consistent as possible with these evaluations is essential as it provides information about how the training is affecting you which is instrumental

in determining the course of training as we proceed.



It is possible you may experience some unwanted effects during training. These can show up during the session, such as changes in heart rate, or feeling sleepy. Or they may show up later in the day, such as fatigue, irritability, difficulty sleeping or a headache. The research tells us that many of the unwanted effects are related to the instabilities in your nervous system that brought you into training in the first place. The most important thing you can do to help minimize any unwanted effects, is to let your clinician know how you are feeling both during and after sessions.

Delimitations & Potential Risks:

It is important for you to understand that a QEEG is not the same as a “clinical EEG” which is used in medical diagnosis to evaluate epilepsy or to determine if there is serious brain pathology, such as a tumor or dementia. The quantitative EEG that we perform, evaluates the manner in which an individual person’s brain functions. It is not designed or applied for the purpose of diagnosing tumors, epilepsy, or other medical conditions in a manner like an MRI or CAT scan. The QEEG neurometric statistical analysis allows us to know, in many cases with relative accuracy, that someone has functional brain abnormalities. The QEEG also provides valuable input that assist in the diagnosis of various psychiatric, psychological, developmental and neurodevelopmental conditions. That being said, it is a fundamental principle that one method alone should not be used to make a diagnosis or for decision making. You should recognize that the QEEG evaluation is noninvasive and no electrical current is put into the brain, but the electrode cap is tight fitting and can become uncomfortable before the evaluation is over. In order to obtain good electrode connections, it is also not unusual for the skin to be slightly abraded in tiny areas under a few of the electrodes.

Mild side effects can sometimes occur during neurofeedback training. For example, occasionally someone may feel tired, spacey, anxious, experience a headache, have difficulty falling asleep, or feel agitated or irritable. Many of these feelings pass within a short time after a training session, and in a recent review (Monastra et al., 2005) of neurofeedback with ADD/ADHD, such mild side effects were estimated to only occur in 1-3% of patients. If you make the clinician aware of any such feelings if they should occur, the clinician can alter training protocols and usually quickly eliminate such mild adverse effects. In doing alpha/theta training (which is primarily done with alcoholism or PTSD), some patients have reported the emergence of memories from the past which may potentially be distressing. It is important to recognize that there is no research on the reliability of such memories. Therefore, a patient should not regard them as necessarily being accurate unless they can be independently corroborated.

Although believed to be relatively rare, it is possible with neurofeedback for a more significant negative effect to occur (Hammond et al., 2001) if training is not being supervised by a knowledgeable, certified professional where the training is individualized. A “one-size-fits-all”

approach that is not tailored to the individual will undoubtedly pose a greater risk of either producing an adverse reaction or of simply being ineffective. There is heterogeneity in the brainwave activity within broad diagnostic categories (such as ADD/ADHD, head injuries, depression, autism, or obsessive-compulsive disorder) that requires individualization of treatment. Thus, we emphasize once again that everyone does not need the same thing and that if training is not tailored to the individual, the risk is greater of it being ineffective.

Although neurofeedback often produces very beneficial and lasting change, there are cases where damage to the brain is such that remediation may not be possible, or as is more often the case, there may be partial movement. Good research suggests that in working with ADD/ADHD, if the patient remains in treatment for an appropriate length of time, lasting improvement can be anticipated in over 75% of cases (Lubar, 1995, 2003, Monastra, 2005). There are, however, differences of professional opinion and some individuals believe more placebo-controlled research should be done and they prefer to utilize medication as the mainstay of treatment. Comprehensive reviews of neurofeedback with anxiety disorders (Hammond, 2005, Moore, 2000) concluded this treatment is effective (even though many studies were brief and only used 5-8 sessions) and provides benefits beyond placebo effects. Excellent research also validates the usefulness of neurofeedback with seizure disorders, where 82% achieve significant improvement (Serman, 2000). It must be acknowledged, however, that the use of neurofeedback with a variety of other problems (e.g., head injury, effects of stroke, chronic fatigue syndrome, fibromyalgia, depression, alcoholism and drug abuse, sleep disorders, PTSD, post-polio syndrome, effects of aging, PMS, sleep disorder, Parkinson's, dyslexia, Tourette's, physical balance, developmental disorder, anoxia, obsessive compulsive disorder), while appearing promising or encouraging to many professionals, must still be regarded as an exploratory treatment given the absence of large, carefully controlled studies, and we do not know yet know with certainty the effectiveness rates. In many ways this is similar to the "off-label" prescribing of medication that is often done in psychiatry. In working with these less validated areas, we encourage the patient to try approximately 15 sessions to evaluate progress. It is the patient's own responsibility to monitor subjective effects of training and to continue training so long as benefit is perceived.

Although there are many health care practitioners who are convinced that EEG neurofeedback has been validated as efficacious (and several thousand clinicians who are using neurofeedback training), you should be aware that some insurance company personnel (whose job it often is to save their company money), and some professionals (many of whom may not be aware of the latest published research), may regard all EEG neurofeedback as experimental. Even for well validated biofeedback treatments, *some* insurance companies insist on defining biofeedback as experimental and, thus, may not reimburse for these services. Although, we agree bill your insurance for a portion of the services being rendered, there is no assurance that they will reimburse for these services. Signing this informed consent agreement is acknowledgement of that responsibility. You should also be aware that neurofeedback training, depending on the type of problem, often requires an average of between 40 and 60 sessions (and sometimes more, particularly with head injury, stroke, or complicated/chronic conditions).

Medication & Consultation with Your Physician

If you are taking medication (e.g., for migraines or headaches, seizures, emotions, hyperactivity, attention, perception, movement, spasticity) it is important to remain in close communication with your physician. Some patients have a tendency to want to decrease medications without consulting with their physician. Any and all changes of medication must be done with the consultation of the prescribing physician, as decreasing or stopping some medications may be life threatening, cause withdrawal effects, or be detrimental to your health. Please, consult your physician. Also, realize that EEG biofeedback is not a substitute for effective standard medical treatment.

Training Side Effects

As indicated earlier, only very rarely have significant side effects from neurofeedback training been noted. However, occasionally someone may feel tired, spacey, wired or anxious, have difficulty falling asleep, feel irritable, or experience a headache. Many of these feelings pass within a short time of a training session. If they do not, you should inform Dr. Erin Badour-Kayem of any negative side effects so that a modification can be made in the training protocol.

Confidentiality

Information shared in therapy is kept strictly confidential and not disclosed without your written permission. Exceptions are those required by law, such as: 1) Danger to yourself or others (e.g., threats of homicide or suicide); 2) Abuse of children or the elderly. The other exceptions are provided in more detailed in the Notice of Privacy Practices Which you have received. Some insurance companies require not only a diagnosis, but also details concerning problems, symptoms, and treatment plans, before authorizing payment. It is our policy always to provide only the minimum amount of information necessary.

FEE Policies

The charges for the qEEG and your treatment sessions will vary depending upon whether or not you wish to seek insurance reimbursement for the services being rendered. Any costs not covered by insurance will be discussed with the patient and payment options will be presented prior to starting your treatment. If you need to cancel an appointment, 24 hours' notice is required, or for Monday appointments, we require notification by 3:00p.m. on Friday. Otherwise, full fee will ordinarily be charged. Please be aware that insurance carriers will not reimburse for cancellation charges.

Emergencies

When Dr. ErinBadour -Kayem is unavailable or it is after hours, if there is an emergency, please go to your nearest emergency room, where a crisis worker should be available.

Voluntary Participation and Consent

Dr. Erin Badour-Kayem has explained to me the reasons why she recommends performing QEEG and using EEG neurofeedback in my therapy (or the therapy of my child). She has also explained that there are multiple other options, such as medication or psychotherapy, available to me or my child should I decline to give my inform consent. I have read this form and Dr. Erin Badour-Kayem has provided me with an explanation about the nature of QEEG and neurofeedback, and my questions about them and the anticipated cost, risks, experimental nature of some applications, and benefits have been answered. I am willing to accept these risks. I understand that although results of neurofeedback are encouraging with many problems, improvements in any individual case with medical or psychological conditions cannot be guaranteed, and to some degree depends on the willingness of patients to commit themselves to treatment and to work hard in sessions. I hereby agree, freely and voluntarily, to undergo (or have my child undergo) a QEEG evaluation and EEG neurofeedback to assist me in improving my health or psychological status.

As a last note, neurofeedback is a learning technique and intrinsically has lasting effects. It instills in the brain the ability to become aware of key processes and to get them under control. Once learned, such skills can be retained, similar in the way that riding a bike is a skill that, once learned, is not forgotten.

If you wish to commence training, please sign below indicating that you have read, understood and accept the above information. Thank you!

Your signature

Today's date

Your printed name

Erin Badour-Kayem

Today's date

M.S., CCC-SLP, Speech Pathologist

Founder/CEO Neurozone Inc