

INFORMED CONSENT: QEEG AND NEUROFEEDBACK

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David and Patricia Carter are both licensed independent mental health practitioners in the state of Nebraska. They are both currently working toward certification in neurofeedback through the Biofeedback Certification Institute of America (BCIA) and have completed their initial 36 hour required training. Patricia Carter is now undergoing 25 hours of mentoring through John N. Demos, MA, LCMHC, BCIA-EEG. John is a Vermont licensed Clinical Mental Counsellor, is certified by the National Registry of Neurofeedback Providers and BCIA in EEG. He is also an accredited BCIA didactic instructor.

Quantitative Electroencephalography (QEEG), sometimes referred to as brain mapping, is an assessment tool for evaluating a person's brainwaves. The procedure consists of placing sensors on the head to measure the electrical patterns coming from the brain--much like the way a physician listens to your heart from the surface of your skin. The brainwave data we gather is then compared to norms for how the brain should be functioning at the client's age. This assessment procedure allows us to then determine in a scientific, objective manner whether and how a client's brainwave patterns are significantly different from normal. The QEEG assists us in knowing if there are abnormalities in brain function that neurofeedback might be helpful in treating, and lets us know how we can individualize neurofeedback to the unique situation of each client.

Once the assessment is complete and treatment goals have been established, neurofeedback sessions can begin. Neurofeedback training is executed through the use of an instrument called an electroencephalograph (EEG) that measures the frequency and strength of an individual's brain electrical activity through sensors placed on the scalp. This information is immediately sent to a computer where the brainwave signals are processed and presented to the individual in the form of both visual and auditory feedback. Using sophisticated computerized programs, the patient is assisted in learning how to use this "neurofeedback" to both recognize and better regulate his or her brainwave patterns. These training sessions are designed to teach the person to gradually retrain their brainwave patterns. At first, the changes in brainwave activity are brief and transitory. Soon, the new patterns become more firmly conditioned in frequency ranges associated with better performance. Once the client has practiced enough to be skilled at focusing and has reconditioned their brainwave pattern, training is concluded. Neurofeedback training may many times only require 15-20 sessions with anxiety or insomnia, but with other conditions such as ADD/ADHD, learning disabilities, complex conditions or multiple disorders, it will frequently involve more sessions. We cannot always stipulate in advance how many treatment sessions may ideally be needed, but generally, we should see some form of progress within the first fifteen sessions.

ADD/ADHD & Learning Disabilities: Clinical work with ADD/ADHD and learning disorders demonstrates that it is possible to recondition and retrain brainwave patterns (Fernandez et al., 2003; Fuchs et al., 2003; Kaiser & Othmer, 2000; Linden et al., 1996; Lubar, Swartwood, Swartwood, & O'Donnell, 1995; Mann, Lubar, Zimmerman, Miller, & Muenchen, 1992; Monastra et al., 2002; Othmer et al., 1999; Rasey, Lubar, McIntyre, Zuffuto, & Abbott, 1996; Rossiter & La Vaque, 1995; Tansey, 1990). Research suggests that, 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). In a 10 year follow-up, neurofeedback substantially improved ADD/ADHD symptoms in up to 80% of cases (Lubar, 1995, 2003). Many researchers found neurofeedback to be as effective (if not more effective) than Ritalin (Fuchs et al., 2003; Rossiter and LaVaque, 1995; Rossiter, 2005; Monastra, 2002). Other papers have also been published on the value and effectiveness of neurofeedback with learning disabilities (Fernandez et al, 2003; Orlando & Rivera, 2004; Tansey, 1991; Thornton & Carmody, 2005).

Alcoholism & Substance Abuse: Neurofeedback training has been used to recondition the brainwave patterns of alcoholics and appears to have very promising potential as an adjunct to alcoholism treatment (Burkett, Cummins, Dickson, & Skolnick, 2005; Peniston and Kulkosky, 1990). In one study only 20% of the traditionally treated group of chronic alcoholics remained sober, compared with 80% of those treated with neurofeedback (Peniston and Kulkosky, 1990).

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Other Clinical Applications: Comprehensive reviews of neurofeedback with anxiety disorders concluded that neurofeedback is effective and provides benefits beyond placebo effects (Hammond 2005; Moore, 2000). It is also being used to work with depression (Baehr, Rosenfeld & Baehr, 2001; Hammond, 2001, 2005), chronic fatigue syndrome (Hammond, 2001), fibromyalgia (Donaldson et al., 1998; Meuller et al., 2001), sleep disorders, Tourette's, obsessive-compulsive disorder (Hammond, 2003, 2004) and PTSD (Peniston and Kulkosky, 1991). Neurofeedback is being utilized in peak performance training, for enhancing musical and dance performance (Egner & Gruzelier, 2003; Raymond et al., 2005), athletic performance, business executives performance, cognitive and memory enhancement (Hanslmayer et al., 2005; Rasey, Lubar, McIntyre, Zoffuto & Abbott, 1996; Vernon et al., 2003), and "brain brightening" to counter effects of normal aging (Budzynski, 1996).

Delimitations & Potential Risks: We do not diagnose tumors, epilepsy, or other medical conditions. The QEEG does provide valuable input that **assists** in the diagnosis of various psychiatric-psychological conditions. 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. There may also be some slight skin irritation where electrodes are placed. Neurofeedback is considered particularly safe and generally without harmful side effects, however 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) such mild side effects were estimated to only occur in 1-3% of patients. In a particular type of neurofeedback called alpha/theta training (which is primarily conducted 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 client should not regard them as necessarily being accurate. In addition, any intervention that can lead to positive results can also lead to unwanted effects. Because this is a training approach, both desirable and undesirable effects continue for only a short time unless they are reinforced. For this reason, it is important to make your clinician aware of any residual negative side effects immediately in order to make adjustments to treatment protocol.

Medication & Physician Contact: Physical and psychological symptoms often interact and we encourage you to seek medical consultation when warranted. In addition, medication can certainly sometimes be helpful. Referral for consultations about such matters can be arranged.

It has been noted that as neurofeedback progresses with ADD/ADHD, if the client remains concurrently on stimulant medication, they may notice increased irritability, moodiness and hyperactivity in the middle to late stages of treatment, due to improved cortical activation. If this occurs, consulting with the prescribing physician regarding a reduction in medication levels is recommended as this has been associated with elimination of this type of side effect (Monastra et al., 2005). Although neurofeedback often produces very beneficial and lasting change, there are cases where previous brain damage is such that remediation may not be possible, or as is more often the case, there may be only partial improvement. It is the client's or guardian's own responsibility to monitor subjective effects of training and to continue training so long as benefit is perceived.

If you are currently 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. It has been clinically observed that the need for some of these medications may decrease after numerous neurofeedback sessions, but they may remain in your system and some individuals may have negative side effects because of the decreased need of the body to rely on them. Some patients have a tendency to want to decrease medications without consulting with their physician. We strongly recommend that all changes of medication 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 neurofeedback is not a substitute for effective standard medical treatment.

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Payment for QEEG Neurofeedback

You should be aware that some insurance companies do not reimburse for QEEG and neurofeedback services. For this reason, we will work on a case by case basis regarding insurance and personal reimbursement for services. We will be happy to bill your insurance for any counseling services provided in conjunction with neurofeedback sessions. This includes a portion of our initial intake session as well as the short counseling session included as pre/post to the neurofeedback session (approximately 20 minutes). Upon your initial interest in neurofeedback we will send you a quote for our services, itemizing your out-of-pocket expenses. This quote is good for 6 months and includes the first 15 neurofeedback sessions. After the first 15 sessions are complete, we will meet with you to evaluate progress and advise on the continuation of neurofeedback services. We reserve the right to offer packages which offer discounts on the above services and will be happy to provide you a packaged quote.

All fees are due prior to each session. If you need to cancel an appointment, 24 hours notice is required. Otherwise, a \$50 missed appointment fee will be charged. Please be aware that insurance carriers will not reimburse for cancellation charges. Telephone consultations over 15 minutes or preparation of correspondence are billed pro-rata at \$60.00 per hour.

Ultimately, the responsibility for treatment reimbursement is yours. Signing this informed consent agreement is a tacit acceptance of that responsibility. You should also be aware that neurofeedback training, depending on can sometimes require up to 40-50 sessions (and sometimes more, particularly with complicated/chronic conditions), although you should see some improvement within 15sessions.

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 detail 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.

Emergencies: If there is an emergency and your clinician is unavailable, please go to your nearest emergency room or call 911.

Voluntary Participation and Consent: It has been explained as to why QEEG and neurofeedback training are recommended in my treatment (or the treatment of my child). I understand that other treatment options, such as medication or psychotherapy, are available to me or my child should I decline to give my informed consent for QEEG and neurofeedback training. I have read this form and have been provided information on the nature of QEEG and neurofeedback, as well as the anticipated costs, risks, and benefits. I am willing to accept these conditions. I understand that although the results of neurofeedback are encouraging, improvements in any individual case cannot be guaranteed. I hereby agree, freely and voluntarily, to undergo (or have my child undergo) a QEEG evaluation and neurofeedback training to assist me in improving my (or my child's) psychological status.

Clients Printed Name

Client or Legal Guardian

Date

Witness

Date

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Date: _____