

Counseling for New Dimension, LLC

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Consent for Treatment

The purpose of this article is inform you and obtain your voluntary consent to participate in one or more methods of assessment and/or treatment and to disclose potential risk associated with this type of therapy/treatment.

This consent covers a variety of procedures and treatments. The treatment provider has checked the items in this document that pertain to your assessment and treatment. It is important that the patient read this document closely and then check, initial, and sign for all the procedures/treatments that the patient will be receiving. Please note that all of the procedures described involved touch (i.e., electrodes on the scalp, placing sensors on the hands, skin, or around the waist). If the patient is uncomfortable with being touched by another person, the client should advise the treating professional immediately.

Q EEG “Brain Mapping”/Assessment

Quantitative electroencephalography (e-lec-tro- encef-a-lo-graphy) (Q EEG) is a measurement, using digital technology, of electrical patterns at the surface of the scalp which primarily reflect cortical activity or “brainwaves.” A multi-electrical recording of brainwave activity is recorded across the scalp and is converted into numbers by the computer that can reflect the exact frequency, amplitude, and duration of a particular brainwave frequency band. This ability to compute this numerical data allows us to compare it objectively to others in the same cohort population.

The particular quantitative assessments used in my practice are the NewQ and z-scores. In the initial assessment the NewQ is used to record brainwave patterns different parts of the scalp while both eyes are closed, open; and while engaging cognitive and physical tasks. The NewQ assessment help assess the client’s need for specialized treatment, i.e. stress, anxiety, insomnia, and depression.

By and large, there are no risks associated with the NewQ. In some cases clients may be anxious about having a procedure done, but there is no lasting side effects. Quantitative assessments are not used for diagnostic reasons, but only to assist in having a more complete understanding of possible disorders.

Z-scores assessments are assessments in real time. With the beginning of high speed personal computers it is now possible to view cortical activity and compare it instantaneously to a population of the same cohort, based upon age and sensor

location. Information that is displayed can adjusted quickly so the client can adjust his/her response.

□ **Biofeedback/Peripheral Biofeedback**

Biofeedback is a non-invasive form of treatment. Sensors or electrodes are attached to the body and these sensors provide a variety of readings –feedback– which is displayed on the equipment for the patient to see. The signals typically measure what are thought of as involuntary body functions and/or brainwave function. With this information, patients can learn to make changes so subtle that a first they cannot be consciously perceived. With practice however, the new responses and behaviors can help to bring relief and improvement to a variety of disorders.

Biofeedback is a term that includes/covers a variety of treatment modalities including peripheral biofeedback (i.e., heart rate, blood pressure, skin response, breathing rate, muscle tension, body temperature), and EEG Biofeedback or neurofeedback (brain wave biofeedback).

The application of computer software and hardware, and homework exercises (i.e., relaxation and meditation techniques) are used to help the patient relax and manage/treat anxiety, stress, frustration, anger, depression, insomnia, pain, and other mental health and physical health disorders.

Biofeedback is continuously subjected to rigorous study and evaluation by the international medical and mental health communities. Biofeedback is an effective treatment for a variety of syndromes involving the management of anxiety, depression, ADD, ADHD, and/or post-traumatic stress disorder (PTSD), and in many cases can be a required and/or the preferred therapeutic method to help the patient succeed in their overall treatment.

Peripheral Biofeedback training will involve the use of one or more of the following: the Wild Divine Project's® software and hardware, a stress thermometer, HeartMath® (EM Wave) software and hardware, a Pulse Oximeter, and or Resperate®. Sensors may be placed on the fingers, ear lobes, waist, skin, or forehead. Areas where sensors may be placed will be prepped with an alcohol prep pad.

The benefits of Peripheral Biofeedback include but are not limited to improved self-regulation and control, increased relaxation, reduction in stress/tension, anger management, overcoming certain fears, sleep problems, and improved vital signs (i.e., reduced heart rate, lower blood pressure, slower/rhythmic breathing, reduced muscle tension. Biofeedback is often used to treat headaches, migraines, pain, anxiety, reducing problem behaviors, and other disorders. In some cases medications being used to treat certain disorders might be reduced in dosage or eliminated based upon the patient having a doctor review the existing condition and symptoms.

The risks of Peripheral Biofeedback may include uneasiness in learning and viewing one's vital signs, and frustration when learning proper biofeedback techniques.

Biofeedback will not interfere with most other treatments. The patient may feel tired/sleepy or physically “heavy” as a result of participating in Biofeedback. It is also possible that the patient might fall asleep during or after Biofeedback sessions.

The risks of not participating in biofeedback include continuation of presenting problem and/or symptoms.

Additional and adjunctive treatments to biofeedback may include, mental health counseling, neurofeedback, AVE, pharmacological interventions, alternative health care options (i.e., acupuncture, natural supplements), physical therapies and other additional medical treatments and procedures.

□ **Capnotraining/CapnoLearning**

Breathing is both an involuntary and learned behavior and it serves several objectives. Fundamentally it is about breathing for life through the exchanges of gases, mainly oxygen (O₂) and carbon dioxide (CO₂) which helps in talking, singing, and coughing. Further, it assist in relaxation, yoga and meditation. Finally, breathing takes part in defensive behaviors for triggering emotions such as anger, for reducing fear, for dissociating from trauma, and for achieving secondary gain or learned behavior. Breathing is a behavior that is subject to the same principals of learning that any other behavior is including, motivation, reinforcement, emotion, attention, perception and memory.

CapnoLearning[®] is about learning how to find optimal respiration through the supportive feedback of a capnotrainer. The client breathes through a nasal cannula gently placed in the nose which is connected to capnotrainer. As the client receives real time feedback from the computer software the client can learn through self-exploration more effective breathing patterns that serves better respiratory physiology and health.

□ **Neurofeedback / EEG Biofeedback / Neuro-therapy/ Bio-neurofeedback**

Neurofeedback is a treatment technique that presents the patient with real-time feedback on brainwave activity, as measured by sensors on the scalp, typically in the form of a video display and sound. When brain activity changes in the direction desired by the neurofeedback protocol, a positive "reward" feedback is given to the patient. Rewards/reinforcements can be as simple as a change in pitch of a tone or as complex as a certain type of movement of a character in a video game. The characteristic that distinguishes neurofeedback from other biofeedback is a focus on the central nervous system and the brain. Neurofeedback has its foundations in basic and applied neuroscience as well as data-based clinical practice. It takes into account behavioral, cognitive, and subjective aspects as well as brain activity.

Several electrodes/sensors are placed on the scalp and earlobes. The sensors detect brain wave activity including Delta, Theta, Alpha and Beta. Individual brainwaves are measured and revealed on a computer screen in order to see brainwave activity. Through instruction the patient learns to train down or train up certain brainwaves

associated with anxiety, depression, fear, relaxation, ADHD, trauma, and other clinical areas of interest. Treatments last from 10-30 minutes and may occur two or more times per week for a minimum of 30-40 sessions. For some conditions, such as Autism, 80-100 or more sessions may be required in order to determine benefits from neurofeedback.

Neurofeedback consists of placing one or more electrodes on the patients scalp and ear clips on one or both ear lobes. Each electrode site will first be cleansed will be prepped with NuPrep® and/or an alcohol prep pad. Electrodes will be attached to the scalp using 10/20 Electrode Paste. The patient sits in a reclining chair and is asked to relax with eyes closed while listening to sounds or tones; or with eyes opened while watching visual stimuli on a computer monitor and listening to sounds, tones, music or sound tracks to videos. Preparation takes approximately 10 minutes and the actual neurofeedback sessions take anywhere between 15 – 30 minutes, or more in some cases. Neurofeedback treatments will involve the use of the Biotrace+® software and Nexus hardware as well as electrodes, and 10/20 Electrode Paste®.

NOTE: In order to engage in neurofeedback, you will first be required to have a neurological assessment (New Q). It is also important to understand that many neurofeedback protocols are considered to be experimental.

There are several disorders that may respond positively to neurofeedback and neurofeedback includes many potential benefits. Neurofeedback has published effectiveness for the treatment of a variety of disorders including ADD/ADHD, Addictions, Anxiety, Chronic Pain, Cognitive Enhancement, Depression, Epilepsy, Fibromyalgia, Learning Disabilities, Peak Performance/Academic Performance, PTSD, Relaxation, Sleep Problems, and Stress. Neurofeedback also has demonstrated clinical effectiveness for many disorders including Autism, Bipolar Disorder, Brain Injury (TBI), Cognitive Decline, Headache, Migraines, Obsessive Compulsive Disorder, Stroke, Turret's Syndrome, In addition neurofeedback has been shown to be useful in treating Anger, Asthma, Autoimmune Disorder, Cerebral Palsy, Creativity, Chronic Fatigue Syndrome, Coma, Developmental Disorder, Dissociative Disorder, Hypertension, Optimal Functioning, Parkinson's, Premenstrual Syndrome, Spasticity, Tinnitus, & TMJ. The risks of neurofeedback include increased dreaming and recollection of dreams, nightmares, boundary clarification (relationship changes), an occasional headache, moodiness, irritability, and, neurofeedback reduces the ability to resist emotions.

Neurofeedback will not interfere with most other treatments. The patient may feel anxious as a result of participating in neurofeedback and seeing their own brain activity, or may feel tired/sleepy or physically "heavy" as a result of participating in neurofeedback. Temporary side effects such as feeling giddy, agitated or irritated may occur during neurofeedback sessions; however, these side effects can be adjusted and eliminated immediately in most cases. It is also possible that the patient might fall asleep during or after neurofeedback sessions.

The risks of not participating in neurofeedback include continuation of presenting problem and/or symptoms.

Alternatives to neurofeedback include mental health counseling, peripheral biofeedback, medicines, alternative health care options (i.e., acupuncture, natural supplements), physical therapies and other additional medical treatments and procedures.

□ **Brainwave Entrainment or Audio-Visual Entrainment (AVE)**

Brainwave entrainment is a general term referring to the use of rhythmic stimuli with the purpose of producing a frequency-guided response of brainwaves to match a desired frequency.

By presenting a pulsed audio and visual stimulation to the brain, the brain begins to resonate, or entrain, at the same desired frequency; thereby, altering the brainwave activity to healthier patterns. AVE can slow down the brainwaves for meditating, inducing dream states and improving sleep. In addition to entrainment, the imagery created by the visual and auditory stimulation provides a focus for the mind and quiets internal dialogue or chatter.

AVE has several benefits and can be used to treat a variety of disorders including but not limited to stress reduction, anxiety, depression, sleep disorders, headaches and migraines, attentional problems and other disorders. Based on the desired change in behavior and light and sound pulses enhance the production of the specific brain wave frequency targeting the desired behavior(s), settles down an agitated mind, increases cerebral blood flow and increases the metabolism of glucose in the brain for improved neuronal function. AVE is not only valuable for clinical use, but can also be used for increasing peak performance and for relaxing and visualizing.

The AVE device used is a David[®] by Mind Alive, Inc. The patient places a set of photo-stimulating glasses over his/her eyes, like a normal pair of eye glasses. The photo-stimulating glasses produce flashing white or colored lights. The client may keep their eyes opened or closed depending whichever is most comfortable. In addition, the client places a headset over their ears and listens to either monaural or binaural sounds in conjunction with the photic simulation.

Risks associated with AVE include sensitivity to and discomfort with the photic stimulation, headaches, and seizures. Epileptics should NOT use any AVE without the consent of their physician. People with a history of brain seizures, mental disorders, brain injury, or alcohol or drug abuse should not use AVE unless first consulting their medical doctor.

AVE is not recognized as treatment or cure of any medical condition or disability. However, research suggests that AVE is an effective relaxation and meditation tool. The risks of not participating in AVE include continuation of presenting problem and/or symptoms.

AVE will not interfere with most other treatments. The client may feel tired/sleepy or physically “heavy” as a result of participating with AVE. It is possible that the client might fall asleep during or after AVE sessions.

Alternative to AVE include mental health counseling, peripheral biofeedback, neurofeedback, medicines, alternative health care options such as, acupuncture, cupping, natural supplements. In addition to physical therapies and other medical treatments and procedures.

□ **Hemoencephalography (nirHEG)**

Near Infrared Hemoencephalography is a type of brain imaging technology that indirectly measures cortical activation in the brain not through electrical activity, but increase blood flow to a particular targeted area of the brain. The HEG sensors measure the blood perfusion and oxygenation generally in the front part of the brain.

It is a simple, non-invasive and a more recent form of neurofeedback. The client wears a headband containing a small flashing red and infrared light and a light collecting amplifier that measures the amount of blood flow beneath the sensor.

As a patient engages in a mental activity there is greater demand for blood flow in that area of the brain and activates the neurons in that area of the brain. As activation occurs these neurons require more energy which is met by increasing the blood flow to that area in prefrontal lobe. The oxygenation level increases in that area of the brain as blood flow increases.

By engaging in repeated mental “exercises” while wearing the HEG headband the client obtains direct feedback on the brain’s activation or a phenomenon called “neurovascular coupling.” That is, the area of the cortex under the HEG sensor reflects the amount of oxygenated blood supply (Cerebral Blood Flow) that is being utilized for a particular metabolic requirement. As more concentration is needed for mental task more blood supply is required bringing more glucose to neurons and increasing neuronal activity that is necessary to sustain focus and attention.

There has not been reported any adverse long term side effects with using HEG. The most common temporary side effects reported are: mild headache or fatigue lasting no longer than a day or two. It seems to be associated working too hard or too long in a training session.

Typically, a HEG session is 30-45 minutes in length consisting of several training trials with short rest sessions in between trials. While clients report positive experiencing after a few sessions successful longer lasting reduction of symptoms may require 10-20 sessions of training. It is usually best to train at least twice a week in the beginning and with improvement in symptoms the frequency of sessions can be reduced.

Consent to Treatment

Your signature below indicates that you have read and understand the information in this document and that you voluntarily consent to participate in and undergo the treatment methods and modalities checked and initialed below.

I understand that I am free to withdraw my consent and to discontinue participation in the treatment modalities/methods checked below, at any time.

Neurological QEEG (New Q) Assessment Initials _____

Peripheral Biofeedback Initials _____

CapnoTraining _____

Neurofeedback Initials _____

Audio Visual Entrainment (AVE) Initials _____

Hemoencephalography (nirHEG) _____

My signature below indicates that I have discussed the procedures/treatments I am consenting to with my treating professional. I have read the *Consent for Treatment* form; or I have had the form and its contents read to me (or my legal guardian) and explained to me. My signature below indicates that I am voluntarily consenting to assessment and/or treatment as described in this form. I understand I may ask questions at any time, and may request to stop treatment at any time.

Patient Signature Date

Parent/Guardian (if patient is under 18) Date

Clinician Signature Date