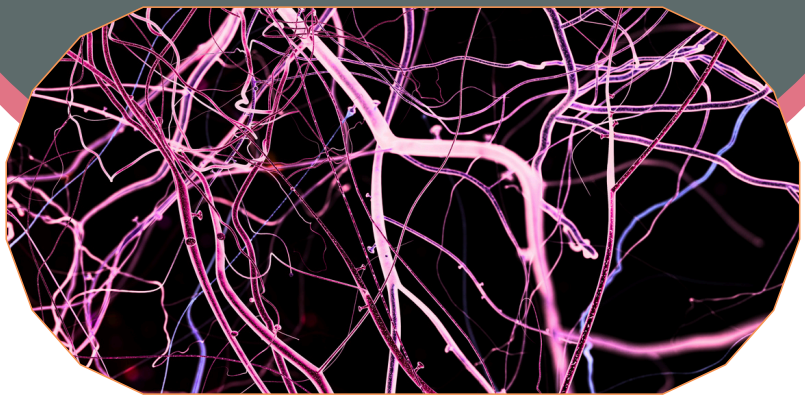
WHAT IS NEURO-FEEDBACK

BRAIN TRAINING

Brittany Duncan Psychotherapy & Neurofeedback


BRITTANY DUNCAN
PSYCHOTHERAPY & NEUROFEEDBACK

Table Of Contents



Understanding Neurofeedback

What is Neurofeedback?

Neurofeedback is a non-invasive brain training method that teaches the brain to self-regulate and function more efficiently. It uses real-time monitoring of brainwave activity (EEG) to provide feedback to the brain about its own activity through visual or auditory cues. Through this consistent and repeated feedback, neurofeedback encourages the brain to shift into more balanced patterns.

The Science Behind Neurofeedback

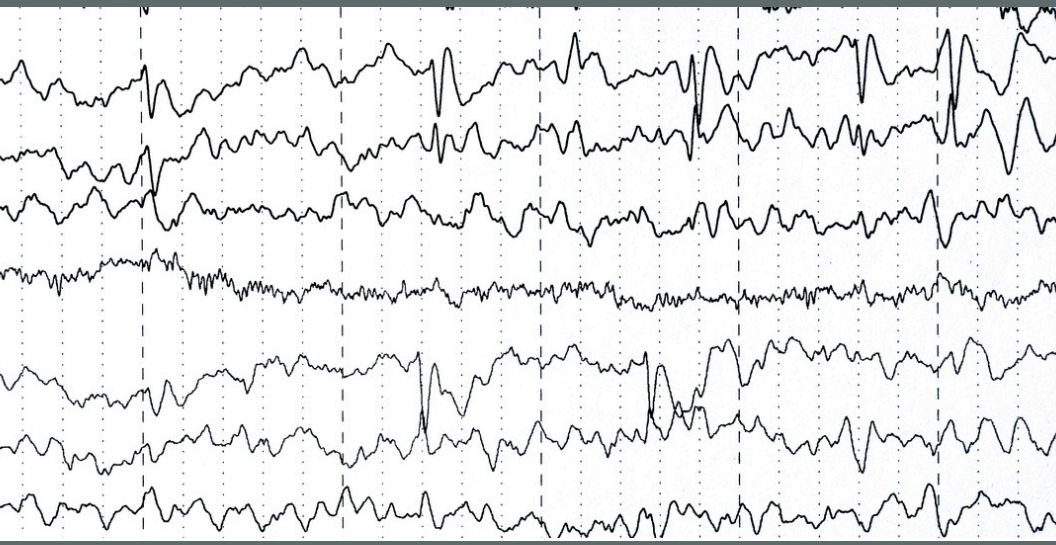
Neurofeedback is based on a few key scientific principles:

Neuroplasticity (The Brain's Ability to Adapt): Neuroplasticity is the brain's ability to reorganize and form new connections in response to experiences/learning. Just like muscles strengthen with repeated use, brain networks can become more efficient through consistent training. Neurofeedback leverages this adaptability by reinforcing healthier brainwave patterns, which can lead to long-term improvements.

Operant Conditioning (Training the Brain Through Feedback): Neurofeedback involves a learning process where change is shaped through rewards. When the brain produces desirable patterns, the system provides positive reinforcement through a visual or auditory cue (e.g., a video playing clearly). When the brain moves into less optimal states, the feedback changes (e.g., the video becomes less clear). Over time, the brain learns to adjust its activity in response to this feedback.

What is EEG?

Electroencephalography (EEG) is a method used to measure the brain's electrical activity through sensors placed on the scalp. These sensors detect patterns of neural communication, known as brainwaves, which reflect different mental and emotional states. Neurofeedback uses EEG to monitor these brainwaves in real-time.



What are Brainwaves?

Brainwaves are the electrical signals your brain uses to communicate. Brainwave activity plays a crucial role in how we think, feel, and function. When brainwaves are out of balance, it can contribute to a range of difficulties often observed in conditions such as anxiety, ADHD, PTSD, depression, and more.

There are five main types of brainwaves:

Delta (0.5 – 4 Hz) – Deep Rest & Healing
Theta (4 – 8 Hz) – Creativity & Relaxation
Alpha (8 – 12 Hz) – Calm Focus & Flow
Beta (12 – 30 Hz) – Active Thinking & Problem-Solving
Gamma (30 – 100 Hz) – High-Level Processing & Insight

Neurofeedback reinforces healthy brainwave patterns and reduces imbalances. For example, someone with anxiety symptoms may have excessive beta activity, leading to overthinking. Or, someone with ADHD symptoms may have excessive theta, making it difficult to concentrate. Neurofeedback can encourage more balanced brainwave levels to promote improvements in symptoms.

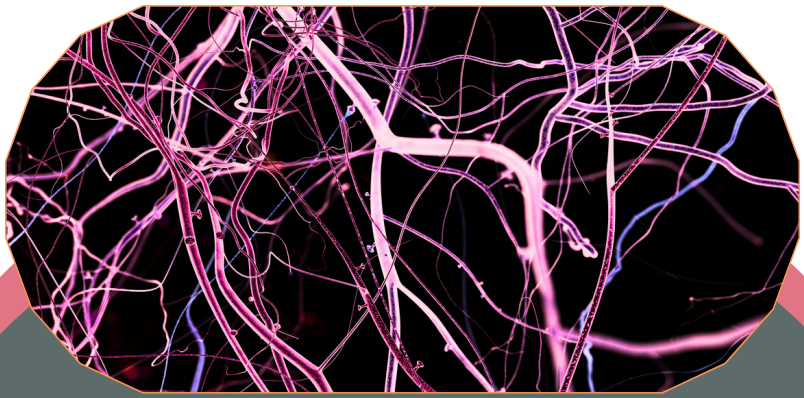
Brain uses feedback to adjust EEG activity

Measurement of brain's electrical activity using EEG

The (Neuro) Feedback Loop

Feedback provided to client based on brain's EEG activity

Computer software analyzes EEG in real time



Types of Neurofeedback

Neurofeedback is not a one-size-fits-all approach. There are different methods, each with its own way of training the brain. The two types offered at Brittany Duncan Psychotherapy and Neurofeedback are **Traditional (QEEG-Guided) Neurofeedback** and **NeurOptimal® Dynamical Neurofeedback**.

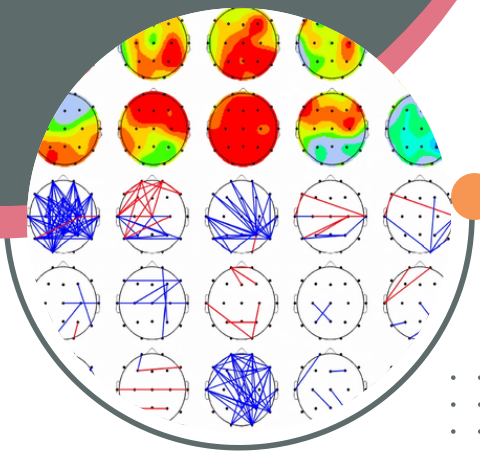
Traditional

- Treatment model
- Clinician decides protocol
- Requires brain map to guide protocol
- Visual feedback
- Moves brain towards desired brainwaves
- In-person only
- Targeted and data-driven
- Measurable changes

Optimal

- Dynamical model
- Brain as expert
- Does not require brain map
- Auditory feedback
- Brain decides what to adjust
- Option to rent systems for at home use
- Non-directive and flexible
- Holistic changes

Both approaches help the brain become more balanced, resilient, and efficient - it's just a matter of finding the right fit based on your goals and symptoms.



QEEG Brain Mapping

A Quantitative Electroencephalogram (QEEG), also known as a brain map, is a powerful tool used to assess and understand brainwave activity. The QEEG helps us to identify patterns that may be linked to your symptoms.

A QEEG records electrical activity in the brain using sensors placed on the scalp. The data is then compared to a normative database to highlight areas of overactivity, underactivity, or inefficient communication. This provides a scientific, objective look at how your brain is functioning.

Why is a QEEG useful?

By analyzing brainwave activity, a QEEG can help:

- Identify patterns associated with ADHD, anxiety, depression, OCD, PTSD, and more
- Guide personalized neurofeedback training (traditional neurofeedback)
- Provide insight into understanding how your brain functions

What to Expect

EEG Set-Up

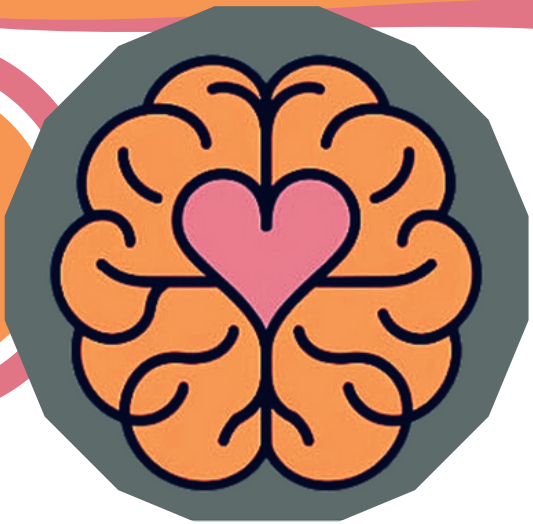
You'll be seated in a comfortable chair while small sensors are placed on your scalp. These do not send electricity into the brain - they simply monitor your brain activity.

During Session

Your brain receives real-time feedback through visual or auditory cues. Most people find sessions relaxing - you simply sit back and let your brain do the work!

After Session

Many people feel calmer, clearer, or more focused right away, while others notice gradual improvements over time. There are no negative side effects since neurofeedback trains your brain to regulate itself. However, some people experience mild fatigue after their first few sessions.



Who Can Benefit?

Neurofeedback is for anyone looking to improve brain function - whether you're struggling with specific challenges or simply want to optimize performance. Since it helps the brain self-regulate, it can be beneficial for all ages and a wide range of concerns. People will commonly try neurofeedback for:

- ADHD
- Brain Fog
- Concussion
- Anxiety
- Depression
- Athletic Performance
- PTSD
- Memory
- Migraines
- Sleep
- Learning Difficulties
- Stress Management

FAQs

Is neurofeedback safe?

Yes! Neurofeedback is a completely safe and natural process. It does not force your brain to change - it simply provides feedback, allowing your brain to adjust in a way that works best for you. EEG records activity, it does not emit an electric current.

How long does it take to see results?

Results vary depending on the individual. Some people notice changes within a few sessions, while others experience more gradual improvements over time. Consistency is key, much like going to the gym for physical fitness.

How many sessions do I need?

Many people will notice benefits within approximately 10 sessions, but continued training enhances results. Many clients will complete between 20-40 sessions in total for long-lasting changes.

Can children do neurofeedback?

Yes! Neurofeedback is safe and effective for all ages, including children, teens, and adults. It can be especially helpful for kids struggling with ADHD, anxiety, or emotional regulation. It is more passive than talk therapy, gamifying the process and not requiring a child to talk through their struggles.

Are there side effects?

Since neurofeedback is non-invasive, there are not typically side effects associated. In some cases, individuals may experience mild fatigue or headaches, but these usually resolve quickly.

How often should I do neurofeedback?

The frequency of QEEG and neurofeedback sessions can vary based on individual needs and treatment goals. For optimal results, neurofeedback sessions are usually recommended 2 times per week, especially in the beginning. As progress is made, the frequency can be adjusted.

Do the effects last?

Yes, the effects of neurofeedback can last for a long time, often becoming permanent. Neurofeedback helps train the brain to self-regulate, and once the brain learns to maintain more balanced patterns, many individuals experience long-term benefits. The lasting effects depend on factors such as the number of sessions completed, the severity of the initial brain dysregulation, and lifestyle habits. For some, periodic "tune-up" sessions may be recommended to maintain progress, especially if life circumstances or stress levels change significantly.

Who are not good candidates for neurofeedback?

Neurofeedback is safe for most people, but it may not be suitable for everyone. It's not a quick fix and requires consistency. Those with uncontrolled epilepsy, severe psychiatric conditions (e.g., psychosis, severe bipolar), or late-stage neurodegenerative diseases should consult a medical professional first. Individuals who struggle to sit through sessions or are unwilling to commit to the process may also find it less effective. If you're unsure, a consultation can help determine if neurofeedback is right for you.

Can I do neurofeedback if I'm on medication?

Yes! Neurofeedback can be done while taking medication. It is not a replacement for medication, but rather a complementary tool. Over time, some individuals may find they need less medication or experience fewer side effects, but any medication adjustments should always be made under the guidance of a healthcare provider. If you're on psychiatric or neurological medications, neurofeedback can still support your brain's ability to function more efficiently.

Getting Started

1

Intake Session

Your journey begins with an intake session where we discuss your goals, concerns, and medical history to determine the best neurofeedback approach for you.

2

QEEG Brain Map

If you choose QEEG-guided neurofeedback, a brain mapping session will be conducted to assess your brain's activity and identify areas for targeted training.

3

Game Plan

We go over your brain map results (if applicable) and create a personalized training plan based on your needs and goals.

4

Start Training

Your neurofeedback training begins! Sensors are placed on your scalp to monitor brain activity while you relax and engage with the session.

Curious but not sure if neurofeedback is right for you?
Book a free consultation to explore your options.

Get In Touch

Healing
through
the head &
the heart.

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“Neurons that fire together, wire together.”

This famous quote from psychologist Donald Hebb reflects the foundational principle of neuroplasticity, highlighting how our experiences can shape our brain’s structure and function. It’s a great reminder that **change is always possible**, and with neurofeedback, you can help your brain create healthier patterns.


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