

**NeuroFlow's mission is to be a resource and asset to health care providers in their tireless pursuit to help patients feel better faster.**

Our Premium Tier was developed to support providers with patients who struggle with poor engagement, motivation, and treatment compliance. Real-time, objective physiological measurements from convenient wearable devices boosts patient buy-in by visually demonstrating treatment effectiveness and progress.

### Where NeuroFlow's Platform Fits Into Your Practice

We know you need to make the most out of every minute you have with your clients, which is exactly why we developed NeuroFlow's platform to integrate seamlessly into your existing workflow. Quantify relaxation levels during techniques you already use such as:

- ✓ Meditation
- ✓ Mindfulness
- ✓ Breathing exercises
- ✓ Guided visualization



*In therapy, you don't always know that you're making progress, but this way you can visibly see that you're making progress.*

**Dr. Laurie Deckard**  
Chief Clinical Officer



### How Using Physiology Can Enhance Provider Capabilities

Over the past few decades, researchers have established the importance of the brain-body connection and how objective data from neurophysiological processes can enhance our understanding and treatment of mental health. Paired with easy to assign self-report measures and patient monitoring tools, NeuroFlow utilizes a variety scientifically-backed technologies to help providers communicate with their patients about the effectiveness of various therapies and progress made over time to keep them motivated and engaged in treatment.

#### Data-Driven



- ➔ Positive affirmation for your clients to increase engagement and motivation
- ➔ Measure and track stress during exposure therapy for phobias, PTSD, and more
- ➔ Continuous, objective data to avoid interrupting therapy for subjective ratings

#### Convenient



- ➔ Extend your care for clients through remote monitoring by with at-home exercises
- ➔ Clients receive automated reminders and can even earn rewards for compliance
- ➔ Support clients self-management by generalizing the skills they learn in the clinic

#### Flexible

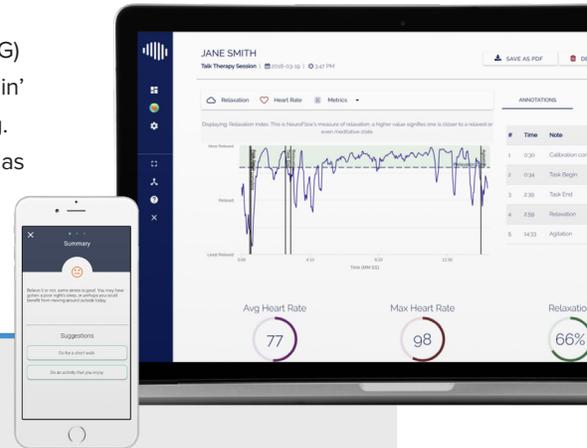


- ➔ Easily customize treatment plans for each client's specific needs
- ➔ Use multiple wearable devices individually or simultaneously, in the clinic and at home
- ➔ Record real-time sessions for as short as a few minutes or as long as over an hour

## Why the Brain-Body Connection Matters for Mental Health

Our brains communicate with our bodies through a complex network of nerves and signal transmitters in the nervous system. Billions of cells in the brain and body are responsible for everything from our thoughts and consciousness to regulating our breathing and heartbeat unconsciously<sup>1,2</sup>. Dysfunction of the nervous system can lead to common but serious issues, as nearly one in five U.S. adults lives with a mental illness<sup>3</sup>.

NeuroFlow leverages physiological measures such as electroencephalography (EEG) and heart rate variability (HRV), which can allow providers to ‘peek behind the curtain’ and relate their patient’s subjective experience to what their physiology is revealing. For example, differences in EEG activity are indicative of psychiatric disorders such as post-traumatic stress disorder (PTSD)<sup>4,5</sup>, while HRV is related to stress and threat response<sup>6,7,8</sup>.



## What Biometrics NeuroFlow Uses to Enhance Therapy

**EEG** was developed in the 1920s and measures the electrical signal that brain cells send to communicate with each other. These impulses generate wave-like patterns of activation that can be analyzed to quantify emotional state<sup>9</sup>.

NeuroFlow crunches numbers behind the scenes to provide you with easy-to-interpret relaxation and stress levels. Additionally, providers can explore how much influence individual frequency bands have on the total signal at a given point in time (relative power), which provides further insight. Best of all, this data is captured through wireless, plug-and-play EEG hardware that takes just seconds to set up.

**HRV** measures millisecond differences between consecutive heart beats. Even healthy heart beats contain very short irregularities that help us understand sympatho-vagal balance (“flight or flight” versus “rest and digest”)<sup>10,11</sup>. Variability indicates a healthy ebb and flow between these two systems, while certain changes can indicate that the body may not be responding properly to its environment or handling stress in a healthy way.

NeuroFlow uses a variety of HRV measures to develop accurate assessments of a user’s physiological balance. Even without wearable devices, users can track their progress at home by using NeuroFlow’s app to collect Energy & Stress measurements using only the smartphone camera and flash.

**References:** [1] Nervous System - National Library of Medicine, PubMed Health. [2] How does the nervous system work? - Institute for Quality and Efficiency in Health Care. [3] Mental Illness - Substance Abuse and Mental Health Services Administration. [4] Lewis, R. S., et al. (2007). The effect of a naturalistic stressor on frontal EEG asymmetry, stress, and health. *Biol psychol*. [5] Meyer, T., et al. (2015). The role of frontal EEG asymmetry in post-traumatic stress disorder. *Biol psychol*. [6] Thayer, J. F., et al. (2012). A meta-analysis of heart rate variability and neuroimaging studies: implications for heart rate variability as a marker of stress and health. *Neurosci Biobehav Rev*. [7] Thayer, J. F., et al. (2010). The relationship of autonomic imbalance, heart rate variability and cardiovascular disease risk factors. *Int J Cardiol*. [8] Shaffer, F., et al. (2014). A healthy heart is not a metronome: an integrative review of the heart’s anatomy and heart rate variability. *Front psychol*. [9] What to Expect During an EEG - Johns Hopkins Medicine Health Library. [10] Malliani, A., et al. (1994). Power spectrum analysis of heart rate variability: a tool to explore neural regulatory mechanisms. *Br heart j*. [11] Shaffer, F. & Venner, J. (2013). Heart rate variability anatomy and physiology. *Biofeedback*.

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