FAQ NeuroCoach® and Addiction

How does NeuroCoach® work with addiction?

Addiction is a neural adaptation process resulting from substance abuse. Overcoming substance use is one goal of therapy, however returning people to productive functioning within the family, workplace, and community is a more compelling and longer-lasting goal, in which the NeuroCoach programs focus.

Individuals early in the recovery process are faced with multiple situations every day in which they must choose to remain sober. Many of these situations require addicts to maintain a strong sense of self-agency to break non-sobriety bad habits. Habit-breaking abilities require not only good intentions but also robust and resilient cognitive functioning to exercise cognitive control and cultivate new sobriety habits. If not, they will be at risk for relapse and lack the ability to reintegrate back into society at their natural level of capabilities.

NeuroCoach®, as a program, works specifically with targeted neurocognitive brain systems to rebalance and reorganize brain disconnects. So, if we fix the hardware (brain disconnections or dysfunctions), the therapist can work more directly and effectively with their client's psychological issues. When you put the two together, what results is a client whose brain is stronger and more resilient and can embrace/follow those healing therapies more efficiently and effectively. This allows the person to go into reflective mode, mindfulness, decision-making mode, self-consciousness (in the terms of reflecting upon actions and self in a good way). Who am I as a person? What is right for me? What expressions are appropriate

Does NeuroCoach® break the relapse cycle?

To successfully break the relapse cycle, recovering individuals must effectively navigate through all the transitional stages of recovery. Thus, one must not only intend to remain sober and understand the environmental context of the relapse cycle but also be cognitively equipped to exercise volitional control when that control is needed. Each transitional stage requires the recruitment of different sets of cognitive brain functions to acquire and execute new skills. The rate of learning, the ability to retain a new skill, and the execution of this skill depend on the learner's health and the functional strength of his or her cognitive function. Unfortunately, many cognitive functions are significantly compromised for many individuals in addiction recovery.

The capacity and performance of an individual's cognitive control capabilities dynamically vary in the moment, based on one's current cognitive load, stress level, and resilience to stress. For individuals in recovery, low capacity and low stress-resilient cognitive function increase the risk of making poor decisions. Unless the individual in recovery can maintain strong abilities to learn, integrate, and self-monitor and has the neural resilience to withstand daily stress, that individual will remain at risk for relapse. From a brain perspective, the functional strength, health, and ability of the executive control functions are critical to ongoing success.

Are there proven results?

The NeuroCoach Program results for non-relapse and addiction recovery speaks for itself. In a study with 321 subjects, participants volunteered for pre- and post-testing without treatment (*n* = 121) or chose to enter the treatment program (*n* = 200). The treatment group engaged in 48 sessions NeuroCoach treatment program. Pre- and post-treatment measures comprised 14 areas from the Woodcock-Johnson Cognitive Abilities III Assessment Battery. An 18-month follow-up assessment measured maintenance of sobriety. After testing the difference for all variables across time between test groups, a significant multivariate effect was found. In addition, at 18 months post-treatment, 89% of the treatment group-maintained sobriety, compared to 31% of the non-treatment group.

Cripe, C. T., Mikulecky, P., Sucher, M., Huang, J. H., & Hack, D. (2022). Improved Sobriety Rates After Brain-Computer Interface-Based Cognitive Remediation Training. *Cureus*. https://doi.org/10.7759/cureus.21429