

The Cloud Nine Project

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Cloud Nine Executive Summary

Overview

The Cloud Nine Project was launched in Lambton County, Ontario, to evaluate the effectiveness of NeurOptimal® Neurofeedback in supporting First Responders facing high levels of stress. This grassroots initiative—driven by volunteers and seed funding—offered up to 20 sessions over 10 weeks to 25 First Responders, including 7 firefighters, 16 EMS, 1 police officer, and 1 ICU nurse.

Participant Outcomes

- Twenty of the 25 participants completed all sessions
- Participants completed standardized assessments for anxiety (GAD-7) and PTSD (PCL-5) before and after their series of sessions:
 - 67% Mean Improvement for Anxiety assessment results
 - 63% Mean Improvement for PTSD assessment results
- Participants completed Journal Tracking before, at the midpoint and after their series of sessions:
 - Key areas of improvement: anxiety, mood, sleep, emotional regulation, and fatigue; many described feeling “more themselves” again
 - 68% Mean Improvement across self-identified concerns

Success Factors

- Pre-session orientation to ease uncertainty
- Emphasis on confidentiality and participant comfort
- Flexible scheduling to support attendance
- Testimonials and peer outreach to address skepticism

Looking Ahead: From Cloud Nine to HeroBrain

The project’s success inspired the creation of HeroBrain, an international movement supporting First Responders and their families through neurofeedback. With interest growing around the world, HeroBrain continues to build partnerships and expand awareness of and access to NeurOptimal® Neurofeedback.

The Cloud Nine Project

The goal of the Cloud Nine Project was to evaluate the effectiveness of NeurOptimal® Neurofeedback on individuals experiencing higher-than-average stress levels. This phase focused on First Responders participating in the study.

The project was supported by volunteer efforts and seed funding. Twenty-five First Responders from Lambton County (7 firefighters, 1 police officer, 1 ICU nurse, and 16 EMS personnel) participated, each completing up to 20 NeurOptimal® Neurofeedback sessions. These sessions were primarily conducted in pairs over a 10-week period.

Method:

Of the 25 participants, 20 completed all 20 sessions and submitted standardized assessments for anxiety (GAD-7) and PTSD (PCL-5) before and after their sessions. They also completed Journal/Tracker forms at the start, midpoint, and end of the series, tracking key issues they wanted to address. Journal/Tracker data from the first 6 participants is included here.

Analysis:

Improvements (or declines) in participants' scores were calculated as percentages of their initial scores to account for individual differences in starting and ending levels. Statistical analysis was performed on this sample set.

Results:

The data from participants who completed the 20 sessions, and the standardized tests was analyzed and is presented below.

1. Anxiety assessment results (GAD-7, or Generalized Anxiety Disorder Assessment):
 - The **mean % improvement is 67** with a standard deviation of 19.
2. PTSD assessment results (PCL-5, or PTSD Checklist for DSM-5):
 - The **mean % improvement is 63** with a standard deviation of 21.

3. Journal Tracker (Zengar measurement tool):

- a. The minimum, mean and maximum % improvement for the first sample of 6 participants are 37%, 68% and 77% respectively.
- b. Items that participants cited most frequently as the ones they would most like to see shift included Anxiety, Sad/Depressed, Sleep, Focus / Concentration, Thoughts that won't leave mind, Mood swings, Feeling angry, Worry and Fatigue.

Commonly cited issues participants wanted to address included:

- Anxiety
- Mood swings
- Sadness/Depression
- Anger
- Sleep difficulties
- Worry
- Focus/Concentration
- Fatigue
- Intrusive thoughts

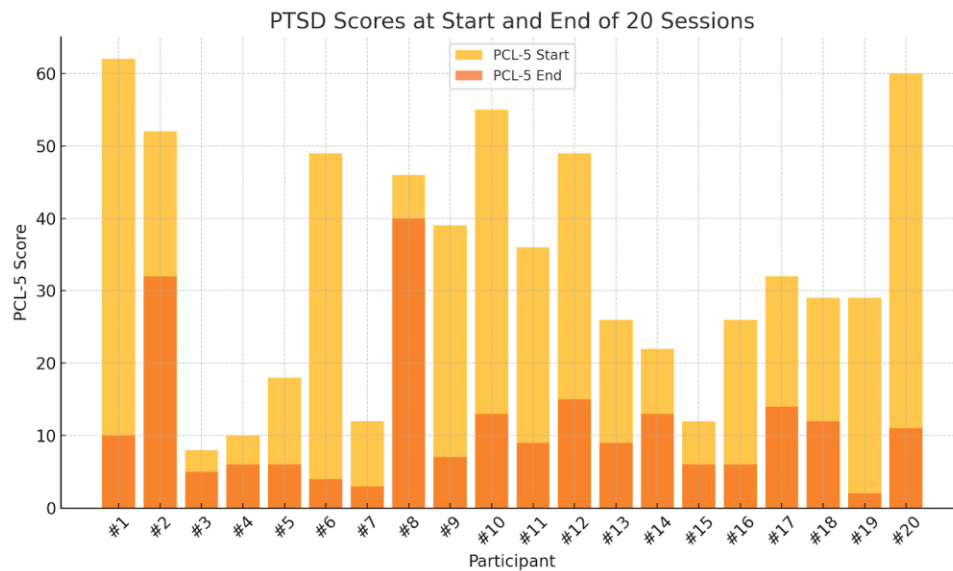
BAR CHART RESULTS

The following graphs illustrate the top self-reported issues tracked by the first six participants before and after 20 sessions of neurofeedback.

It highlights the average percentage improvement for each issue per participant.

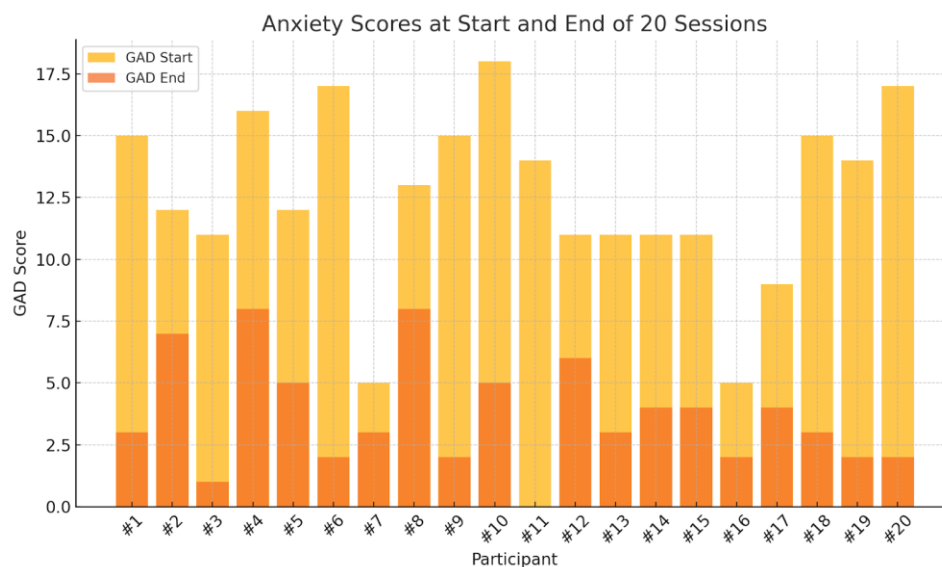
Finally, an overall average percent improvement was calculated by combining the individual averages from all participants.

Assessment Tool Used: PCL-5 (for PTSD)

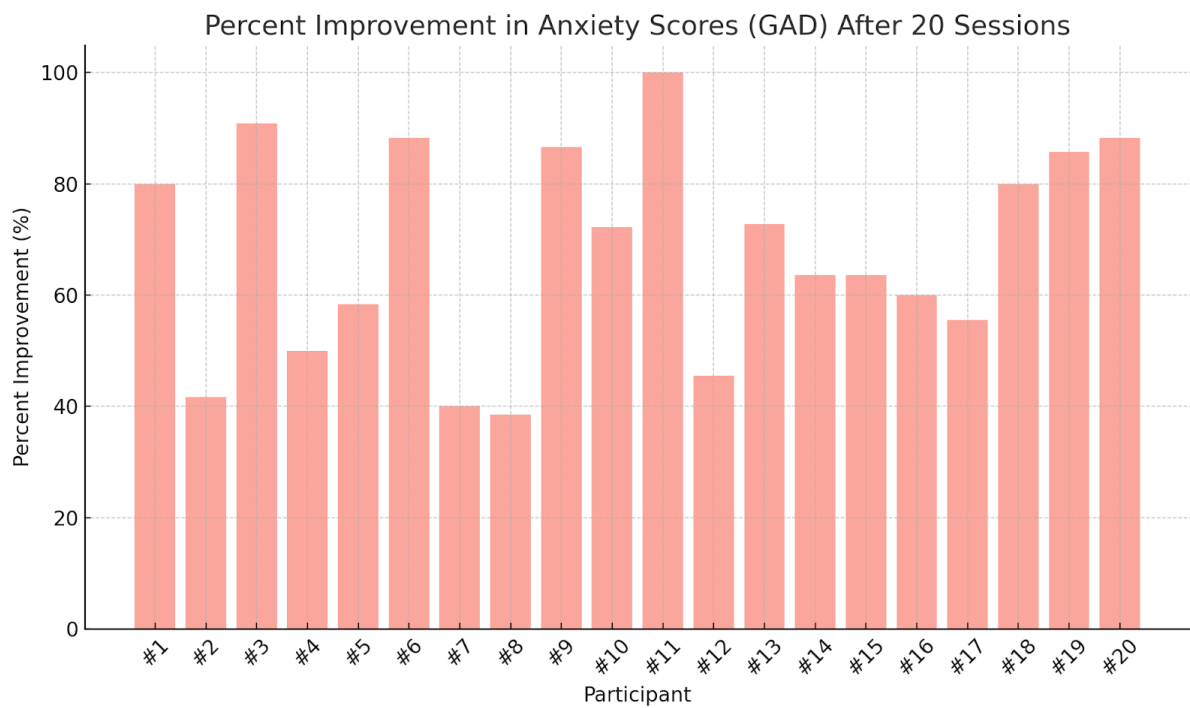
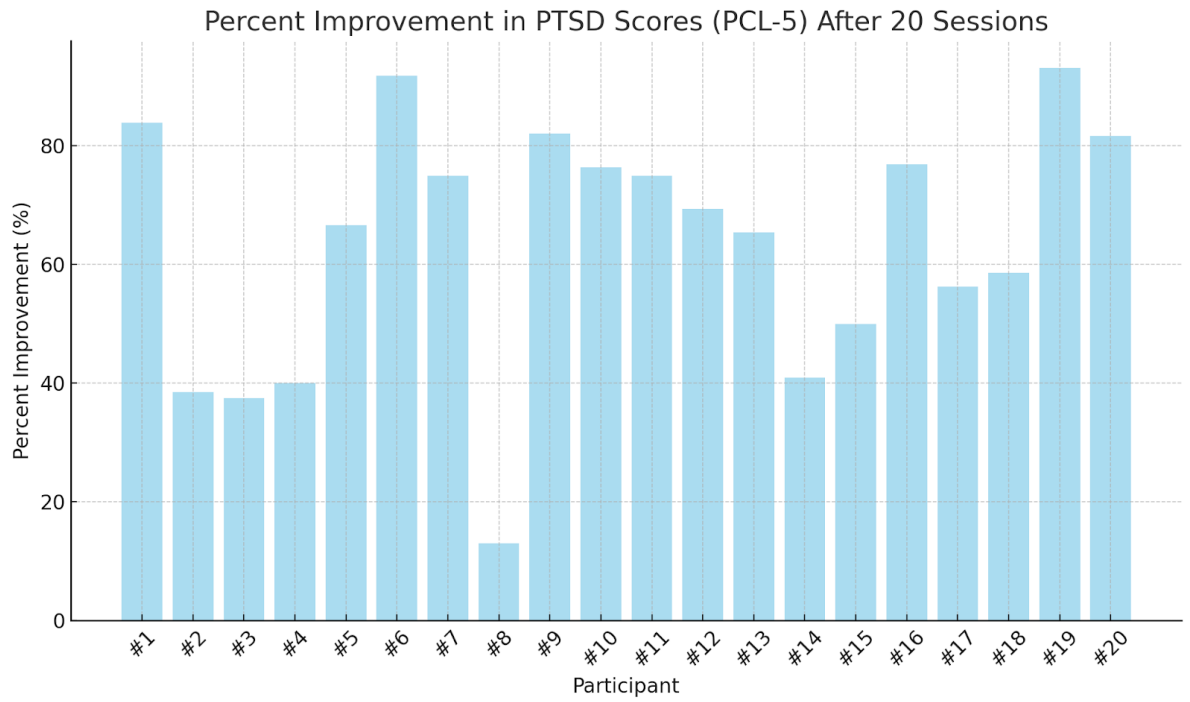


A score of 31-33 or higher is a likely indicator of PTSD; however, scores approaching 31 may indicate partial PTSD. For a score greater than 31-33, it is recommended that the issue of PTSD be discussed with the family doctor. Participant #2 continued and completed a third PCL-5 (PTSD test) at the end of 40 sessions with a final score of 7 (scores were 52→32→7).

Assessment Tool Used: GAD-7 (for Anxiety)



GAD-7 total score for the seven items ranges from 0 to 21: 0-4: minimal anxiety; 5-9: mild anxiety; 10-14: moderate anxiety; 15-21: severe anxiety



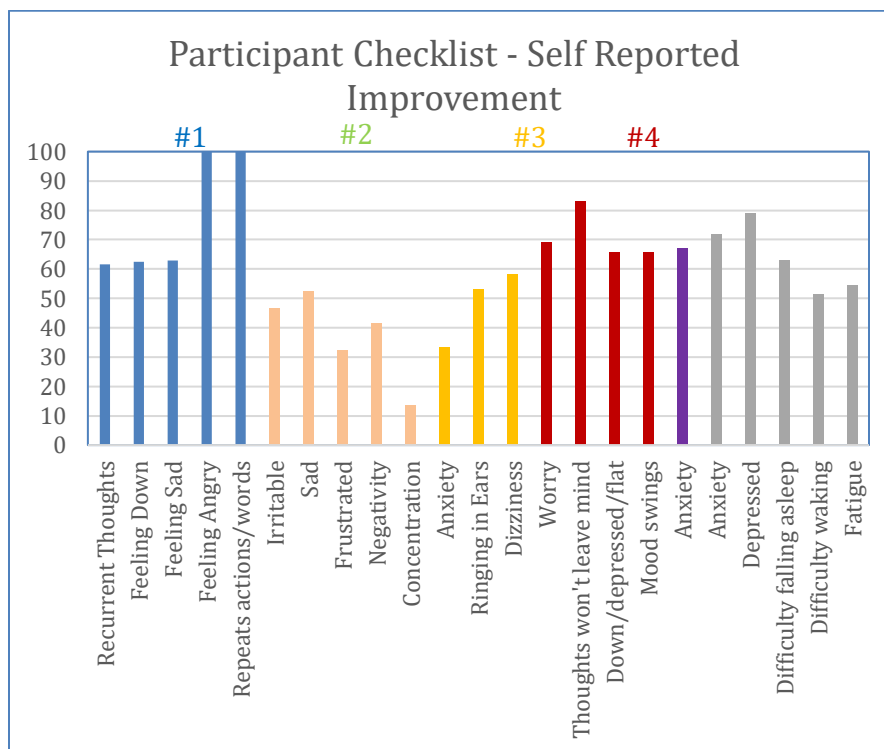
Key Areas of Improvement:

Participants tracked their top concerns over 20 sessions. The most common were:

- Anxiety
- Mood Swings
- Depression
- Sleep Difficulties
- Fatigue
- Intrusive Thoughts

The graph for self-reporting below presents the top issues tracked by each of the first six participants before and after 20 sessions of neurofeedback. It shows the average percentage improvement for each issue for each participant. An average percentage improvement was then calculated from the average percent improvement for each participant.

Average improvement across issues ranged from 37% to 77%, with a mean of 68%.



CALM MINDS SAVE LIVES

This section is a blog originally published on [NeurOptimal.com](https://www.NeurOptimal.com) on May 1, 2024 and reprinted here. It offers a first-person perspective on the Cloud Nine project - the pilot that planted the seeds for HeroBrain.

What began as a local initiative soon sparked interest from across Canada, the United States, and Australia. The response made one thing clear: there is a shared desire among first responder communities to explore new ways to support mental wellness.

This moment marked more than the launch of a project - it marked the beginning of a collaborative movement. One that brings together like-minded individuals and organizations with a common goal: to create calmer minds and stronger teams, together.

The Blog

Our First Responders are all heroes and deserve to have access to the most effective wellness solutions available today. We need to show these incredibly special people how much we appreciate them, these heroes who care for us every day. They sacrifice so much for us. They keep our communities safe and save lives, sometimes at the expense of their own mental health.

This is the story of how a group of 21 paramedics, firefighters (2 retired), police and one ICU nurse, all from Lambton County, Ontario, experienced benefits beyond their expectations after participating in a project that ran 20 NeurOptimal® Neurofeedback sessions a piece. Out of this group, only one had even heard of neurofeedback before the project.

This group was amazingly dedicated, rarely skipping a session in spite of busy schedules. They did it on their own time. They put in the effort. They showed up, through winter storms and sometimes driving from over an hour away. Some came exhausted after a long shift and looked forward to a nap during their session, calling the process their brain spa.

This group was nothing short of a joy to work with. They were always appreciative of the little things, the heated blanket, the bottled water, the time to relax... They said their brains seemed to be saying “Thank you!” after each

session. One of the more powerful comments I recall hearing was “I feel happy”, expressed by a paramedic after his first session. He said he couldn’t remember the last time he had felt happy.

“I’m enjoying life again” was another comment that was especially poignant. Many were surprised at how much easier a difficult work call had been, or how past triggers were just that... in the past.

Several reported that they were no longer quick to anger, were sleeping better and felt calmer and more focused. They all completed self- assessments for anxiety and PTSD at the beginning and at the end of the project which had surprisingly positive results. It was always made clear that NeurOptimal® Neurofeedback was not a treatment or a therapy for any condition, simply brain training that could result in very positive outcomes.

I know this experience has taught me that there’s so much more work that remains to be done with First Responders and neurofeedback.

Together with five paramedics as a steering committee, we’ve started a new initiative, “Calm Minds Save Lives” that will benefit First Responders and their families through loaning machines that can be used at home. We are currently in the process of fundraising so one or more machines can be bought and made available to take home on an ongoing basis. We will continue to gather data on the outcomes and we encourage any group interested in collaborating to get in touch. Our goal is to see more uptake locally and globally, resulting in more First Responders getting access to a wellness solution that is long overdue.

One important thing I was reminded of during this project was that outward appearances are not necessarily indicative of what’s going on inside. We need to make it easier for First Responders to reach out, to know they’re not alone. To know that there are natural approaches like NeurOptimal® that can be very powerful, especially if someone is struggling.

Many of the group that finished their 20 Sessions wrote testimonials urging their peers to try it, saying there’s nothing to lose and possibly much to gain from doing neurofeedback. They encouraged their peers to seek it out and at least be open and see where it may lead them.



Sarah Goodman of Lambton EMS enjoying a NeurOptimal® session

A memorable moment after the project ended was when a young paramedic walked into my office and announced that she was there for prevention. I wanted to hug her.

“In my profession as a paramedic”, said Sarah Goodman of Lambton EMS, “we all need to pay more attention to our mental well-being. When I heard about neurofeedback, it seemed like a smart thing to do for prevention.”

Thank you for that, Sarah. It doesn't have to be something that's done after experiencing a series of traumatic incidents or a rough patch. This is something that could be included in First Responders curriculum or as part of the training for new recruits.

My lasting impression is that First Responders are wired differently. I mean that in a good way. On a daily basis they experience things that the average person can only imagine. They run into burning buildings while everyone else is running out.

Having been a NeurOptimal® practitioner for 12 years now, I have never worked with a group that responded so quickly and powerfully to sessions. Their brains seemed to love neurofeedback. It would be wonderful if everyone who knows a First Responder or two were to forward this ebook to them or at least make them aware of an option that does not seem to be well known in the First Responder world. Simply put, NeurOptimal® can be one more tool on their toolbelt of effective mental wellness solutions.

TESTIMONIALS: What Participants Are Saying

The following pages contain testimonials from first responders involved in the Cloud Nine Project. This includes paramedics, firefighters, police officers, and others who work on the front lines and behind the scenes. Common reports are improved sleep, decreased stress, and overall positive changes in mental health.

“I had great improvement with my sleep and quality of sleep after only a few sessions. As a paramedic and shift worker, I found neurofeedback to be very helpful and would recommend it to anyone struggling with sleep problems or shift work.”

“I experienced improvements in my mood, my clarity of thought and my memory. I also saw an improvement in my sleeping issues! I would highly recommend this therapy to anyone.”

“It's hard to put into words the experience I had with neurofeedback. My initial thoughts upon hearing of the treatment and methods it followed were that of skepticism but also optimism. After spending the odd 10 weeks of sessions, I was shocked at the benefits I felt. The changes were hard to notice at first as they were gradual. Things that would have me sweating for days seemed like challenges easily conquered. Places I was timid to visit started to feel like second homes.”

“Prior to it being offered at my workplace, I had never even heard of neurofeedback. I had recently gone through a lot of life's challenges (loss of my dad, divorce, pressure at home and at work) which caused me a lot of stress. After only a few sessions, I noticed I was starting to feel a little more at ease. After completing my sessions, I was amazed at how I felt. Although those stressors are still there, they no longer bother me like they did before. I would highly recommend neurofeedback to anyone.”

“I am thankful to have had the opportunity to discover Neurofeedback. It truly felt like it was a brain vacation and one I didn't know I needed so badly!”

“I recommend Neurofeedback to anyone! I am a first responder student and after my first few sessions I already noticed positive changes in my mood, motivation,

study habits and sleep. I can study for a lot longer and I am also starting to sleep through the night which I never did before I started my sessions.”

“I have really enjoyed my Neurofeedback sessions. In between sessions I found that I would be irritable until being able to get a full night’s sleep, but then I would feel better the next day and better able to handle life's normal stress. I thoroughly enjoyed having a scheduled nap time.

“I cannot recommend Neurofeedback highly enough – truly life changing! Highly recommended for anyone seeking a natural and effective path toward optimal brain health and performance”

“I had little understanding of exactly what it was that I was signing up for a few months back, but I was going through some impactful life changes and decided to opt in to the mental health resources available to me with hopes of facilitating a healthier transition. What I ended up discovering was the most effortless, natural, pleasant, and effective mental health aid that I have experienced thus far. My overall mood has improved and is less turbulent, and I don't dwell on stressors to the same extent as I used to.”

“I first heard about Neurofeedback from a good friend who is the retired Fire Chief of Lambton Shores Fire Department. At the beginning of the program, I was experiencing Tinnitus (ringing in ears) since 2011 from a whiplash injury. After the second treatment, the tinnitus was gone. Neurofeedback has helped drastically with mood swings, irritability, stress and sleep. I now sleep 6 to 7 hours a night, my mood has been more positive, and the body aches and pain have decreased to the point that I can move freely with less pain.”

“A while back when you held a first responder day, I remember trying neurofeedback. When I heard there was a chance to participate in a pilot project, I thought maybe this could be helpful with some of my concentration and rage issues. It didn't take long for my wife to notice some of the changes in my behavior. I also began noticing changes in my focus and concentration at work. I would recommend this to anyone.”

“I was a little skeptical about how this was all going to work, but after a near breakdown I got set up to give Neurofeedback a try. I figured I’d have nothing to lose. Every day I would cry. I wasn’t sleeping. I was always irritable. I was

overwhelmed. After the first few sessions, I slept through the night - which was huge. By the end of 20 sessions, I'm sleeping better. I'm not sad all the time. I'm not crying every day. I don't sweat the small stuff and my irritability is almost nonexistent!!! I always looked forward to my sessions."

"It is quite amazing the results after 20 sessions. I found I would go into a session with lots of different problems I just did not know how to tackle because I was in a state of information overload. By the end of the session, I knew what I needed to do and everything felt tied in a nice little bow. Within the first couple of sessions, I started noticing major differences and actually felt happy for the first time in a long time. This is an amazing service and highly recommend this!!"

"I like to compare my mind to a computer. When I have a lot of things on my mind, it slows down, and sometimes, it freezes. It can take a while to start up, and then a long time to shut down.

NeuroOptimal Neurofeedback helped me by resetting the thoughts in my mind. I would leave my appointment with just the current thoughts on my mind. All the other 'stuff' was turned off and put back in my file system. The thoughts weren't gone, erased forever. They just weren't weighing on my mind causing anxiety, worry, and stress. I encourage you to stop suffering in silence. NeuroOptimal Neurofeedback is helping me and I think it can help you."

"I had been struggling with poor sleep, teeth grinding and irritability for a couple of years and was recommended to try Neurofeedback by a friend and fellow first responder. The improvements were immediate and after 20 sessions my sleep has greatly improved, and I have a daily general feeling of being at ease. Unexpectedly, I have also experienced a reduction in the sound level of my tinnitus. I highly recommend neurofeedback to all."

BRING THE BENEFITS TO YOUR TEAM

The powerful results seen in the Cloud Nine Project are what sparked the creation of our current efforts to promote NeurOptimal® beyond our borders. This initiative revealed just how much of a difference a few neurofeedback sessions could make for First Responders. The technology used, NeurOptimal®, was relatively unknown in this group.

Several participants experienced such profound improvements that they became passionate advocates, helping this to grow into a movement - one committed to sharing the power of brain training with others who serve.

Since then, many more groups have discovered what's possible. We are actively collecting and sharing these stories so First Responders can see what's working for their peers and explore options that suit their unique environments.

If you're curious about bringing NeurOptimal® Neurofeedback into your department or workplace, please get in touch. For more information about the Cloud Nine Project, contact Susan Gillies of Good Vibrations Neurofeedback at susan.gillies@neurooptimal.com or call or text (519) 639-8453.

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