

Clinical applications of MindReflector training protocols
- Augmenting a clinical Neurofeedback practice

Case studies, feedback and testimonials

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Introduction

Following the introduction of the MindReflector protocols at the October 2012 iSNR meeting in Orlando, Florida, I have been using MindReflector for selective patients in my Harrisburg, PA clinical practice, Acorn Health Associates, PC. Home MindReflector training was used in order to augment and extend the effects of in-office Neurofeedback. Home-use of MindReflector has permitted me to reduce weekly contact on a number of my patients and support patients' development of self-help and self-efficacy.

To date, I have successfully used MindReflector training to augment treatment with 29 patients. MindReflector protocols have been used for home training with the following clinical conditions: Generalized Anxiety Disorder (GAD); Traumatic Brain Injury (TBI); emotional, attentional, and cognitive sequelae due to stroke; Reactive Attachment Disorder (RAD); Attention Deficit/Hyperactivity Disorder (ADHD); Autism Spectrum Disorder (ASD); chronic pain; Posttraumatic Stress Disorder (PTSD); and sleep difficulties. Its use has always followed successful in-office Neurofeedback, which typically has included individual psychological counseling/psychotherapy and the use of BrainMaster and NeuroOptimal training systems and Low Energy Neurofeedback System (LENS). MindReflector in all cases was presented to patients not as treatment, but as a way to train the mind/brain in ways that would assist the treatment they received in office.

Throughout its use, effort always has been made to inquire about any negative effects due to MindReflector training. To date, as was the case during Beta testing, no negative effects have ever been reported.

Case reports

1. **Posttraumatic Stress Disorder/Postconcussive Syndrome**

Mr. X is a married, 34-year-old male Army veteran who served two tours of duty in Iraq, 2004 and 2007. He fought door to door in the battle for Fallujah and ended his duties as a bomb squad captain. He witnessed and took part in numerous battles. He worked to disarm IEDs and in this capacity witnessed the death by explosion of several colleagues. Upon returning to the USA, he experienced classic symptoms of PTSD and Postconcussive Syndrome. Symptoms included frequent nightmares from which he'd be unable to get back to sleep; constant worry, irritability and anger control issues; flashbacks; guilt and demoralization; migraine-like headaches; short-term memory difficulties; concentration problems; and reduced sleep.

Following his return to the USA, he reported unsuccessful treatment by the VA. Treatment involvement in the VA system consisted of psychotropic medication and cognitive behavioral therapy (CBT), consisting largely of exposure – response prevention (E/RP) approaches. He found the drug therapy highly uncomfortable and the E/RP approach intolerable.

Mr. X was referred to the present psychologist by his father, a physician, who was aware that Neurofeedback has had success in the treatment of PTSD. It took eight months from initial contact for Mr. X to come into the office. He was reticent to see a psychologist because of his prior negative experience with E/RP therapies. He quizzed me about our approach and insisted he would not talk about what he had experienced in Iraq.

After reassurance about our approach and introduction to the logic of Neurofeedback therapies, particularly LENS, treatment was initiated. Because he was working full-time as a welder and he was a relatively new father, treatment could only be carried out on a once-a-week basis.

After brain mapping with the Flexyx Neurotherapy System (FNS), a precursor to LENS, treatment was started using four exposures per session and a 10Hz. offset. LENS used the same offset, with a 2 sec. 100% duty cycle. During the initial stages of treatment, he also took part in Neurofeedback training using an early Zengar system, NeuroCare Pro (NCPro), and NeurOptimal 1.98 (NO).

Mr. X began to discuss the possibility that he was experiencing positive change after the fourth treatment session. But he clarified that he wasn't sure if anything was happening or not. His wife, on the other hand, was very positively impressed and commented on how his mood and irritability had been reduced. Later in therapy, Mr. X began to report improved sleep, with a gradual reduction of flashback incidents; improved mood; reduced irritability; and improved concentration and focus abilities. His mood was noticeably improved in session,

although he remains serious in demeanor. Interestingly, during the course of relationship development, I would chat informally about current events in Iraq, including the recent atrocities committed by ISIS, and in that context he would tell me about some of the atrocities he experienced, in effect, a kind of a backdoor, indirect E/RP procedure.

To date, Mr. X has had 28 Neurofeedback treatments, 10 FNS, 18 LENS and four NCPPro/NO procedures done concurrently with LENS sessions. He typically falls asleep during treatment and reports feeling tired afterwards. Positive responses include reduced headaches, reduced frequency and severity of flashbacks, improved sleep, dramatically reduced anger outbursts and irritability, and improved concentration and focus. He also reported having a significant improved relationship with his wife

After the 18th session, Mr. X was told about the possibility of home training using the MindReflector/NeuroSky system. He expressed interest and in June 2014 a NeuroSky MindWave headset and MindReflector software were supplied to him. He was taught how to use the system in session and instructed in how to individualize feedback, as well as how to download other audiovisual feedback options from the MindReflector website. He was advised to begin using the Meditative Relaxation protocol, although he was encouraged to experiment with the other protocols as well. He was instructed to use the system daily, if desired, but initially at least three or four times a week, for 15 – 20 minutes. In particular, he was encouraged to use the system when he began to notice feeling increasing anxious or agitated.

Because of improved functioning, observable in session and based on both self-report and input from his wife, and because he now had an ability to practice Neurofeedback at home, after the 20th session I proposed reducing contact to once every two weeks. Mr. X was willing to try a reduced schedule, which has continued through the present and recently even been extended to once-every-three weeks. Mr. X reports he is using the MindReflector system several times a week and especially when he starts feeling more anxious or irritable. He noted that his wife often encourages him to use the system when she notices he is agitated or upset. He continues to report positive results with the system in reducing his anxiety and helping him return to a more relaxed state. He presents as more confident in his ability to continue to function positively and to further reduce treatment in the future. I have been slow to reduce his involvement because of the severity of his presenting symptoms, but believe that the use of the NeuroSky/MindReflector system and its availability to Mr. X has allowed a reduction in the frequency of treatment that supports self-efficacy and self confidence.

2. Generalized Anxiety Disorder

Ms. Y is a retired 66-year-old woman who had worked the past 25 years as a special education schoolteacher. She is married to her husband of 40 years and has two emancipated adult children. At the time of initial contact four years ago, she presented as highly anxious and depressed, with growing concerns about perceived cognitive decline and increasing problems meeting the demands of teaching. She reported she was under the care of a psychiatrist and had been diagnosed with Bipolar Disorder, Type II, for which she took Lamictal, 150 mg. per day, in addition to Lexapro, 40 mg., and Lorazepam, as needed. She reported constant worry, frequent panic attacks, early morning awakening accompanied by dread and anxiety about the upcoming events of the day, problems with comprehension, deteriorated memory and ability to focus on tasks such as preparation of lesson plans, weight gain and high blood pressure, poor energy levels, and reduced confidence in her own ability to manage her daily affairs.

To date, Ms. Y has been involved in three intensive treatment episodes with the present psychologist, each involvement consisting of 15 or more sessions. In-office treatment has consisted of individual psychotherapy and involvement in Neurofeedback therapies, including FNS, LENS, NCPro and NO. At the initiation of the first treatment involvement she was seen on a twice-a-week basis due to the severity of her symptoms and the difficulties her symptoms were creating at her work-site. At that time she was considering a need to retire due to perceived psychological disability.

Based on in-office observations and social history, Ms. Y's diagnosis was changed from Bipolar Disorder, Type II to Generalized Anxiety Disorder. Although she was experiencing mood alteration, this appeared secondary to her anxiety, perceived shortcomings, and fear of failure. She also appeared to have dependent personality traits.

Each intensive treatment involvement was ultimately successful, leading to a completed cessation of Lamictal, infrequent use of Lorazepam, and 50 – 75 % reduction in her use of Lexapro. However, until recently, when confronted with new stressors, Ms. Y would decompensate and seek out further one-to-one contact, even after her retirement two years ago. During the last re-involvement in therapy in 2013, Ms. Y was introduced to the NeuroSky/MindReflector system. She was shown how it could be used for home training, and she decided to purchase the system in April 2013. She now reports that she “loves” the system and, when highly stressed, will use MindReflector on a daily basis, sometimes multiple times a day. In particular, she noted that she uses the system first thing in the morning if she wakes up feeling anxious. Interestingly, the present psychologist has had several conversations with Ms. Y in the recent past during which this psychologist indicated to her that Neurofeedback and MindReflector, in particular, are paths to an end, namely that of self-regulation. She appears to have heeded this advice and has reduced her obsessive use of MindReflector at

home. In summary, my in-office contact with Ms. Y has been dramatically reduced due to her ability to use MindReflector at home. She remains dependent and anxious, but she is better able to manage these difficulties on her own and is learning self-regulation after a lifetime of feeling without sufficient resources to manage her own anxiety.

Feedback and Testimonials

Comments made after Beta testing MindReflector for 4 – 6 weeks:

1. Stops my mind from racing.
2. “Love it.” If you need a testimonial, let me know.
3. Helps me sleep.
4. Helps me focus.
5. Gives me more energy.
6. Reduces my worry and anxiety
7. Calms me. I felt peaceful at the end of training.
8. I love it. I will use it often.
9. I seemed more relaxed after training.
10. Perfect way to decompress
11. Very relaxing
12. Hypnotic
13. Calming.
14. After training I am more focused and alert.
15. After training, I slept well through the night.
16. Refocused my attention.
17. When I lost focus, it stopped and got me to focus again.
18. Definitely helped me relax before sleeping.

19. I love having my own music and video selections.
20. The MindReflector system worked well for my 12-year-old daughter. She struggled with falling asleep due to an overactive mind. My wife and I did not want to use any type of medication. After eight sessions with the MindReflector system, my daughter was able to fall asleep faster and generally feel more relaxed often do training late at night. I am drowsy by the end of training and am able to sleep and rest fully throughout the night.

Testimonials from current users:

1. MindReflector (is) working and I'm feeling better. I will keep doing the Full Spectrum daily and increasing to level 3. (I) Do not wake up with anxiety.
2. I have been using MindReflector for just over a week now, and I have to say that I feel really good. I am surprised about the positive emotional state I am in.
3. I also noticed that I can breathe very freely, without having to use the asthma pump that I've been using the last month after having a tight chest since August last year.
4. I have completed 6 sessions altogether since I was in your office on Thurs. Significant improvement in the way I was feeling after the first Full Spectrum. YIIIPPPPPPEEEEEEE!!! It was unbelievable.
5. I use MindReflector mid-afternoon. After I am done, I feel energized and am able to do whatever I have to do into the evening. Before using MindReflector, I was very tired by early evening.
6. The past few days have been a breeze. Mind Reflector working and I'm feeling better. I will keep doing the Full Spectrum daily and increasing to level 3. Do not wake up with anxiety. Considering cutting back another half next Thurs.
7. I feel much more comfortable to use MindReflector and to suggest it to my clients. Yesterday I trained my nephew for focus and my sister-in-law for relaxation. They absolutely loved it! For this 17-year-old teenager to realize he can do things with his mind was mind blowing. I think often we accept our "states" as unchangeable and therefore try and cope with life as best we can or just accept that this is how it is, and that is just that. He has ADHD and I think for him to physically see via the feedback that he really struggles to focus was an eye-opener; but moreover, realizing that we can change this for him and help him perform better gives hope for his future. We have 4 weeks until his exams start, can't wait to see his results! I am very excited to see the full power herein.

8. I have been using MindReflector for just over a week now, and I have to say that I feel really good. I am surprised about the positive emotional state I am in. Interestingly enough, my Grade 1 daughter said to me twice last week that she really enjoyed school and she chats about what is going on etc. She used to always say school was awful and nobody wanted to play with her etc. She is also on the training to help her focus at school. I also noticed that I can breathe very freely, without having to use the asthma pump that I've been using the last month after having a tight chest since August last year. (Not saying that this program heals, just saying what I've noticed). I can't wait to get started and to see what this can do for people! I feel much more comfortable to use MindReflector and to suggest it to my clients. Yesterday I trained my nephew for focus and my sister-in-law for relaxation. They absolutely loved it! For this 17-year-old teenager to realize he can do things with his mind was mind blowing. I think often we accept our "states" as unchangeable and therefore try and cope with life as best we can or just accept that this is how it is, and that is just that. He has ADHD and I think for him to physically see via the feedback that he really struggles to focus was an eye-opener; but moreover, realizing that we can change this for him and help him perform better gives hope for his future. We have 4 weeks until his exams start, can't wait to see his results!"