

- OCD affects millions. Approximately 1 in 40 adults in the U.S. (2.3% of the population) and 1 in 100 children have this condition.
- OCD is equally common among men and women.
- The average age of onset is 19, with 25% of cases occurring by age 14. A third of affected adults first experienced symptoms in childhood.
- OCD is NOT having a desire to collect items or being drawn to a particular area of interest, idolizing a celebrity, or behaviors that reflect difficulties with impulse control such as compulsive lying, shopping, or gambling.

Source: Anxiety and Depression Association of America (2016). Understanding the Facts: Obsessive-Compulsive Disorder. Retrieved January 3, 2018, from <https://adaa.org/understanding-anxiety/obsessive-compulsive-disorder-ocd#>

The Benefits of Connectivity-Guided Neurofeedback: Obsessive-Compulsive Disorder

OCD manifests in many different ways and makes life incredibly difficult for those who have it. In this issue, we confront and distinguish the complexities of the disorder to make information about OCD more accessible so that more people are aware of the implications of their language, and are educated on the subject.



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What is Connectivity-Guided Neurofeedback?

- ◆ **Connectivity-Guided Neurofeedback (CGNFB)** is an advanced form of Neurofeedback (NFB) that allows the brain to make changes in brain wave patterns, across cortical regions, in order to develop more functional neuropathways. CGNFB is more accurate than traditional NFB because it measures the neuronal network activity in three dimensions across regions, unlike traditional NFB which only trains specific sites. This allows for improved communication within the brain and in turn, decreases neurologically rooted symptoms.
- ◆ Obsessive-compulsive disorders, Anxiety, Depression, ADHD, and other problems impacting one's every day life have specific patterns that are shown in the connectivities in QEEG Brain Maps that improve with CGNFB training. Typical functional improvements include: improved focus, attention, and cognitive abilities, improved mood and behavior, increased learning capacity and academic performance, and better sleep regulation. Because CGNFB creates new neurons/networks, changes in the brain are lasting, with none of the adverse side effects that may be experienced with medications.

WHO CAN BENEFIT?

- ◆ Obsessive Compulsive Disorders
- ◆ Attention Deficit Disorders
- ◆ Autism Spectrum Disorders
- ◆ Mood Disorders
- ◆ Learning Disabilities
- ◆ Seizure Disorders
- ◆ Traumatic Brain Injuries

CGNFB greatly improves treatment outcomes and differs from traditionally neurofeedback by achieving results in half the number of sessions. Training the brain with neurofeedback has resulted in dramatic and lasting improvements for the following conditions:

Improvements from CGNFB for these conditions are often notable in the areas listed below:

- | | | |
|------------------------|----------------------------------|------------------------------|
| -Attention | -Behavior | -Processing speed |
| -Shifting attention | -Obsessive thinking | -Speech and language ability |
| -Executive functioning | -Sleep | -Grammar and writing ability |
| -Following directions | -Social skills | -Handwriting |
| -Organization | -Motor skills | -Spelling |
| -Sensory sensitivity | -Phonetics and semantic language | -Math ability |
| -Mood | -Reading comprehension | -Test performance |
| -Anxiety | -Word fluency | |

What is OCD?

Obsessive Compulsive Disorder (OCD) is a mental health disorder in which a person gets caught in cycles of obsessive thoughts and compulsive behaviors.

Obsessions are unwanted and intrusive thoughts, images, or impulses that trigger extreme anxiety.

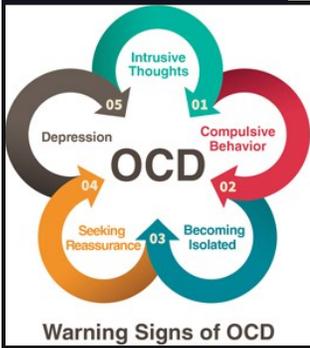
Compulsions are repetitive behaviors or thoughts that a person feels driven to engage in with the intent to neutralize, counteract, or get rid of their obsessions.

Common Obsessions:

- Contamination (body fluids, germs, disease, dirt)
- Losing Control (fear of acting on an impulse to harm oneself or others)
- Unwanted Sexual Thoughts (forbidden or perverse sexual thoughts, images, or impulses)
- Religious Obsessions (excessive concern with right vs. wrong or morality)
- Harm (fear of harming others due to not being careful enough)
- Perfectionism (concern with exactness or evenness)

Common Compulsions:

- Washing and Cleaning (excessive hand washing, showering, cleaning)
- Checking (checking that you did not or will not harm others or yourself)
- Mental Compulsions (mental review of events to prevent harm)
- Repeating (activities, body movements)
- Other Compulsions (ordering or arranging things, telling or asking to get reassurance)

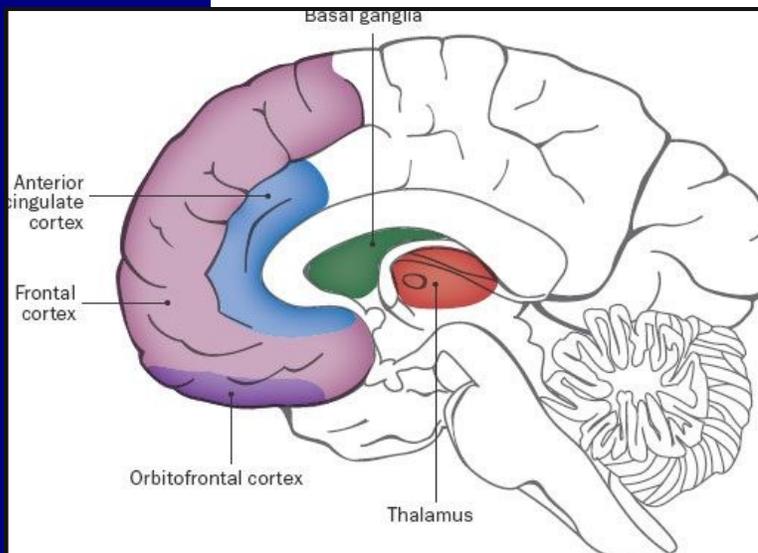


Credit: The Gateway Institute

“Research suggests that problems in brain communication between the frontal region and deeper structure of the brain may play a role [in the cause of OCD].”

What causes OCD?

Although there is no exact known cause of OCD research suggests that problems in brain communication between the frontal region and deeper structures of the brain may play a role.



Credit: International OCD Foundation (Buckyball Design, Melissa Thomas Baum)

Research has shown that OCD does run in families, with genes being partially responsible; however other factors that may be involved in its development are not well known. That said, it is believed that differences in OCD that begins in childhood is influenced more so by genes than OCD that begins in adulthood.

PANDAS is another type of OCD that occurs during childhood. In response to the body's reaction to infection

Sources:

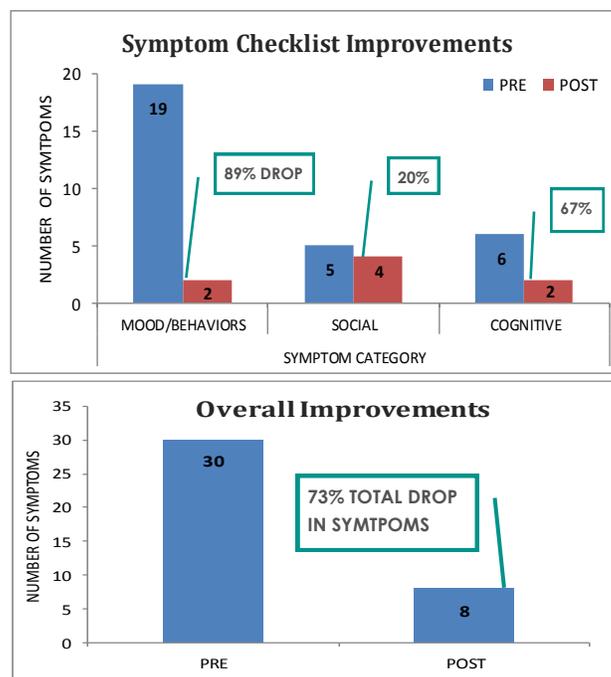
International OCD Foundation. (2016, September 30). What is OCD? Retrieved December 07, 2017, from <https://iocdf.org/about-ocd/>

The Neuroconnection Case Study

Emma was a 36 year old woman who sought treatment at The Neuroconnection for the primary symptoms of obsessive thinking and compulsive behaviors and anxiety that was severely impacting her daily functioning at work and in her personal life. Emma reported regularly feeling “waves of overwhelming guilt” due to wasting time fixating on one thought and as a result of not being able to complete a task that she started. She was consistently late to work and appointments, had very low productivity at work. Along with her ruminating obsessive thoughts were behaviors such as skin picking that kept her from engaging socially, leading her to feel self-consciousness about her appearance and further isolating her. She had additional symptoms that she reported including difficulty with focus and attention due to ruminating and depressed mood. Emma had sought psychiatric treatment prior to presenting at TNC and was on the psychotropic medications Concerta, Synthroid, and Zoloft, that had only proved to improve her symptoms slightly, which also created induced side effects causing loss of appetite, and difficulty falling asleep.

Emma was administered the QEEG (Brain Map) that showed the expected patterns of obsessive compulsiveness in both connectivity and amplitude which equate to EEG slowing over the frontal areas and frontal hyperconnection. In addition, she also showed a depressed pattern in the left hemisphere that also required CGNFB training.

Emma did a total of 40 sessions remapping each 10 sessions to determine EEG improvements and then addressing abnormalities associated with her symptoms. With each series of sessions, Emma’s symptoms decreased, and she decreased her medication use, until finally, she was able to discontinue all of her psychotropic medications and be completely functional. At the end of treatment Emma reported the following improvements; she no longer ruminated and obsessed about things. Even when upset about something she would quickly be able to move off the subject and focus on more productive thoughts. She became more efficient at work and no longer needed to stay after hours to finish her work. Her focus and attention was better and she was able to shift her attention and not be belabored a task. She was no on time to appointments and work.



Approaching the end of her latest protocol, Emma shared that her boss recently praised her for the improvements she had made with more timely work, preparedness, and tardiness.

Her compulsion such as the picking, stopped. As a result, she was more interested in social engagements, and she no longer experienced anxiety that stopped her from engaging. Her overall mood improved her outlook on a more positive future. She handled change better and embraced it rather than dreading it. Her energy also increased. In addition, she reported improvement in memory. The dramatic changes in her behavior and mood were noticed by her family and friends and her relationships improved.

***Names have been changed to maintain confidentiality

EVIDENCE-BASED RESEARCH:

QEEG-Guided Neurofeedback in the Treatment of Obsessive Compulsive Disorder:
QEEG guided neurofeedback has the potential to seek out appropriate protocols for patients and design treatment plans that address OCD's common signs and symptoms such as excessive checking, rumination and doubt.

Methods

Quantitative EEGs were used to assess the brains of two patients diagnosed with OCD seeking treatment to generate protocols necessary for subsequent neurofeedback training (Hammond, 2003). The first patient, a 25 year-old woman who suffered from OCD, also displayed symptoms of severe depression and anxiety, low self-esteem, withdrawal, overly-emotional, frequent somatic complaints, and bruxism. She had previously tried various medications but did not find them helpful tackling her contamination obsessions, washing compulsions, rumination about self-harm, counting, and excessive blinking. Her initial focus was her depression so a two-channel protocol for left fronto-temporal activity was used.

The second patient, a 25 year-old man who originally had problems with attention-deficit, substance abuse, and depression, also had many OCD symptoms such as obsessions with contamination and washing rituals, checking rituals, masturbation compulsions, and perfectionism. This patient too had been heavily prescribed medication for managing symptoms but was seeking an alternative form of treatment. A right frontal protocol was used for his training.

Results

PATIENT 1: 50 neurofeedback sessions were completed and profound changes were made. *Her OCD and anxiety symptoms greatly improved*, indicative of the pre-score of 26 and post score of 4 on the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) and a pre-score of 72 and post-score of 8 on the Padua Inventory. As expressed by the individual and her peers, her depression normalized from a severe level, she became less withdrawn, felt happier and motivated, was now emotionally stable and her somatic symptoms decreased as well.

PATIENT 2: 50 neurofeedback sessions were completed, but due to the tremendous progress made from the training, he ended up continuing with the neurofeedback for a total of 93 sessions to enhance his academic abilities before returning to school. His updates throughout his training were astonishing, just after six sessions *he no longer experienced rudimentary fear or paranoia, was more mellow, found it easier for him to be in social settings, and was even able to decrease his Ritalin dosage* (which he stopped taking entirely by the completion of his training). He noted fewer intrusive thoughts, less social anxiety, and increased confidence. By the end of his training, his concentration was better, especially with word tracking while reading. Furthermore, his OCD symptoms were no longer present with a pre-score of 25 and post-score of 7 on the Y-BOCS and a pre-score of 62 and post-score of 7 on the Padua Inventory.

Conclusion

Both patients seeking treatment for their OCD were relieved of their symptoms post neurofeedback training. Follow-ups at 15 and 13 months were made following their training sessions and improvements in OCD symptoms sustained, highlighting the long-lasting effects neurofeedback has to offer. Neurofeedback's offers a promising intervention to induce clinically meaningful, evidence-based changes in the brain.

For more information pertaining to these findings, please review the reference below:

Hammond, D. C. (2003). QEEG-guided neurofeedback in the treatment of obsessive compulsive disorder. *Journal of Neurotherapy*, 7(2), 25-52.



More on The Neuroconnection:

Upon seeing such excellent results in the past 10 years with Connectivity-Guided Neurofeedback (CGNFB), our professionals aimed to extend access to training for those outside of our geographic area or inflexible schedules. As a result, The Neuroconnection designed an @ Home Training program to offer CGNFB sessions in the convenience of your home. For five years, we have been able to provide our expertise and therapeutic treatment to families across the world. The opportunity for daily neurofeedback training at home has brought successful results for clients living as far as Russia and India.

Meet Our Director:

Ann L. Rigby, MSW, LCSW, BCN has over 30 years of experience in the mental health field. Ms. Rigby has been providing Neurofeedback services since 2001. She founded "The Neuroconnection", a Brain Mapping and Neurofeedback clinic that provides an advanced, research-based form of Neurofeedback known as Connectivity-Guided Neurofeedback.

Ms. Rigby is the Past Board Chair for the Autism Society of Illinois. She is a fellow and Board Certified member of The Biofeedback Certification International Alliance. She is also a field placement instructor for graduate students at Benedictine University and holds memberships with the International Society of Neurofeedback and Research (ISNR), the Biofeedback Certification Institute of America (BCIA), and the National Association of Social Workers (NASW). Ms. Rigby is a frequent speaker and exhibitor at many national and regional conferences throughout the year on topics related to the benefits of Connectivity-Guided Neurofeedback.

For more about up and coming speaking engagements, go to our website www.theneuroconnection.com and visit our Resources tab.

the Neuroconnection
Brain Mapping and Neurofeedback

We're moving!

Move date: February 6th, 2018

Our new address will be:
1813 North Mill Street, Suite H
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www.theneuroconnection.com