

the **Neuroconnection** **News**

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Season's Greetings!

From The Neuroconnection

Tis' the season to be merry and bright! However, many stressors arise during this time of the year. The list of demands to prepare for the holiday season can bring unwelcome guests in the form of anxiety and depression.

There are many different kinds of symptoms and behaviors associated with anxiety and depression. Both have broad neuropsychological symptoms that range from mild to severe, depending on each individual.

Our staff at The Neuroconnection are experts in the field of advanced, evidence-based, Connectivity Guided Neurofeedback (CGNFB). Unlike traditional neurofeedback that trained power abnormalities at specific sites in the brain, CGNFB is an advanced form of neurofeedback that improves the brain's ability to communicate with itself over functional brain networks. CGNFB training improves symptoms associated with anxiety and depression that are caused in part from a deficiency in the neuropathways in certain regions of the brain. CGNFB aims to improve brain functioning by making the necessary connections in specific regions of the brain that are responsible for excessive worry, low mood, irritability, unrealistic perceptions of problems, a lack of energy, or being unable to cope with stressful situations.

This month's newsletter will discuss the different types of anxiety and depression, including what the key symptoms are, the results that The Neuroconnection has found with Connectivity Guided Neurofeedback, and evidence-based research reporting on the effectiveness of neurofeedback in clinical studies. A case study included in this issue will show how CGNFB can improve depression and anxiety symptoms, eliminating the need for medications.



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*Give the Gift of
Connectivity Guided
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"The brain has no knowledge until connections are made between neurons. All that we know, all that we are, comes from the way our neurons are connected."

-Berners-Lee, Inventor of the World Wide Web

Depression Disorders:

Everyone experiences a fluctuation of mood during their lifetime. Ultimately, this is a normal coping mechanism for disappointments, life obstacles, or daily struggles we all at one point have been through or will go through in our lives. Many individuals use “depression” as a blanket term for feeling down. Yet, depression is much more than feeling low in mood periodically. Symptoms of depression can vary based on the type of disorder and the age of the individual.

There are many different forms of depression but we have compiled a short list as follows:

- **Situational Depression** – Triggered by a stressful life-changing event. It clears up in time, once event has ended.
- **Dysthymia** – Low mood over a long period of time. Individual can function but not optimally. Characterized by sadness, fatigue, and changes in appetite and sleep.
- **Atypical Depression** - Characterized by overeating, oversleeping, fatigue, extreme sensitivity to rejection, mood changes in direct response to events.
- **Season Affective Disorder** – Characterized by the change of seasons. Symptoms appear during the fall or early winter and are not present during spring or summer. It is a sub-type of major depressive disorder; therefore, one may see similar symptoms beginning mild and progressively worsening as the winter month’s progress.
- **Bipolar Depression (Manic Depression)** - A mood disorder that is characterized by alternating periods of depression and extreme mania.
- **Persistent Depressive Disorder** (aka, Chronic Depression) - Lasting two years or more and is less severe than MDD.
- **Major Depressive Disorder (MDD) and Depressive Episodes** - Characterized from the DSM-IV below.

The DSM-IV Criteria for Major Depressive Disorder (MDD) include:

- Depressed mood or a loss of interest or pleasure in daily activities for more than two weeks.
- Mood represents a change from the person’s baseline.
- Impaired function: social, occupational, educational.
- **Specific symptoms, at least 5 of these 9, present nearly every day:**
 1. **Depressed mood or irritable** most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).
 2. **Decreased interest or pleasure** in most activities, most of each day.
 3. **Significant weight change (5%) or change in appetite**
 4. **Change in sleep:** Insomnia or hypersomnia.
 5. **Change in activity:** Psychomotor agitation or retardation.
 6. **Fatigue or loss of energy**
 7. **Guilt/worthlessness:** Feelings of worthlessness or excessive or inappropriate guilt.
 8. **Concentration:** Diminished ability to think or concentrate, or more indecisiveness.
 9. **Suicidality:** Thoughts of death or suicide, or has a suicide plan.



*These are a summary of criteria and listed for informational purposes. This list is not meant for self-diagnosis. There could be other potential factors that mimic Major Depressive Disorder; such as, substance dependence, bereavement, medications, or a medical condition. If you are experiencing any of the above, contact your primary care physician for diagnosis. If you are experiencing any type of suicidal ideation, please contact 911 immediately.

Reference: DSM-IV Major Depressive Disorder and Depressive episodes: <http://www.psnpaloalto.com/wp/wp-content/uploads/2010/12/Depression-Diagnostic-Criteria-and-Severity-Rating.pdf>

Results with Connectivity Guided Neurofeedback:

Many physicians treat depression symptoms with medication therapy. Depression medication can relieve certain symptoms of depression; however, medication therapy is not supposed to be used long term and could potentially have many unwanted side effects during and ceasing medication therapy. Since no two individuals are affected the same way by depression, it is a long process for many individuals to overcome depression.

The Neuroconnection utilizes Connectivity Guided Neurofeedback (CGNFB) to help reduce depression symptoms. CGNFB is non-invasive, medication free, and does not produce reverse side effects. It has been proven effective in several studies as an alternative method of depression treatment, when compared to individuals taking anti-depressant medication. CGNFB is best used in combination with other techniques, including Psychotherapy Therapy or Cognitive Therapy. Exercising regularly and a healthy diet will also produce greater desired effects. As a result of the neural pathways being reregulated, many clients have found that they were able to cease their anti-depressant medication during their training and therefore experience symptom improvement.

The Neuroconnection has achieved the following results:

- Improved mood
- Increased energy
- Increased self-esteem
- Greater ability to handle stress more effectively
- Increased ability to resume and enjoy daily activities
- Ability to decrease or eliminate medications
- Improved sleep
- Improved cognitive functioning



According to the U.S. Department of Health and Human Services, "More than 60% of Americans taking antidepressant medication have taken it for 2 years or longer, with 14% having taken the medication for 10 years or more" (2011).

Evidence-Based Research: Neurofeedback and Depression

A study conducted by Hammond in 2000, utilized a sample of eight patients (mean age 43.5; range 34-50 years) to complete a series of neurofeedback sessions. The Minnesota Multiphasic Personality Inventory was completed on each patient and found 7 out of the 8 patients were seriously to severely depressed, with only one that was moderately depressed. All eight patients completed neurofeedback training, focusing on frontal alpha asymmetry protocols with no other type of psychotherapy combined. Hammond (2005) reported "many of the patients were on medication at the time of initial testing, but were no longer on medication at the completion of treatment" (p. 135). The findings were as follows "one patient improved from severely depressed to normal and two progressed from being seriously depressed to normal. Three improved from severe to mild depression, and one improved from moderately depressed to mildly depressed" (Hammond, 2005). The final case who was severely depressed only showed mild improvement; however, this was due to a recent loss and was referred to a psychotherapist.

Hammond (2005) concluded the article by addressing "Neurofeedback is an encouraging development that holds promise as a method of modifying biological brain patterns associated with a variety of mental health and medical (e.g., stroke, head injury, effects of aging) disorders-particularly because unlike drugs, electroconvulsive therapy, and intense transcranial magnetic stimulation, it is non-invasive and seldom associated with even mild side effects" (p.136).

Interested in reading the full study?

Reference: Hammond, D.C. (2005). Neurofeedback treatment of depression and anxiety. *Journal of Adult Development*, 12,(2/3),131-137.

Anxiety Disorders:

Anxiety disorders can take the form of panic attacks, specific phobias, performance anxiety, generalized anxiety, post-traumatic stress disorder, and social anxiety. Anxiety is a normal reaction to stress and a healthy coping mechanism. However, when it becomes an overwhelming dread to deal with everyday situations, it can interfere with the ability to function.

Symptoms or behaviors of anxiety disorders can be mental, emotional, or physical. While there is no known direct cause for anxiety disorders, scientific evidence has shown that it is a combination of various factors, such as changes in the brain and environmental stressors. Many studies have shown that long term stress or extremely stressful situations (such as trauma) can deregulate neuropathways in certain areas of the brain. Connectivity Guided Neurofeedback aims to rework the deregulated neuropathways so the nerve cells can make the correct connections in a region specific area of the brain.

Mental and emotional symptoms or behaviors include:

- Excessive, continuous worry and tension
- Unrealistic perception of problems
- Irritability
- Feelings of restlessness or "on edge"
- Being easily startled
- Fearful or uneasiness

Physical symptoms often consist of:

- Muscle tension
- Headaches
- Dizziness
- Trembling
- Nausea
- Sweating
- Heart palpitations
- Numbness or tingling in hands or feet
- Shortness of breath
- Difficulties falling or staying asleep



Results with Connectivity Guided Neurofeedback:

Medication therapy can produce results to mask anxiety symptoms, but these results are largely reversed when treatment is stopped. Also, medication for anxiety can be addictive or have negative side effects during or when ceasing treatment.

One major advantage of treating anxiety with Connectivity Guided Neurofeedback (CGNFB) is that it is non-invasive, medication free, with no reverse side effects. It has been proven effective in several studies, with many patients showing positive, lasting outcomes. CGNFB can be used in combination with other techniques, including Relaxation Therapy and Cognitive Therapy, to produce greater desired effects. The Neuroconnection recognizes the need to look at anxiety in the context of the individual's life in order to develop a comprehensive plan utilizing CGNFB, while also addressing environmental contributors.

The Neuroconnection has achieved the following results:

- Increased calmness
- Improved ability to control the "flight or fight" response to stressful situations
- Improved focus and performance
- Decreased irritability
- Improved concentration
- Improved sleep

Success Story in Depression & Anxiety

The experts at The Neuroconnection have had a great deal of success addressing depression and anxiety symptoms with Connectivity Guided Neurofeedback (CGNFB). One such client was “Caitlyn”, who came to The Neuroconnection in January 2014 after being diagnosed by her physician with Major Depression and Generalized Anxiety. Caitlyn had suffered with the symptoms of depression and anxiety for several years and had been placed on three different medications including: Zoloft (an antidepressant belonging to a group of drugs called selective serotonin reuptake inhibitor (SSRIs) and Gabapentin. She was also taking an anti-anxiety medication, yet discontinued it prior to beginning CGNFB.

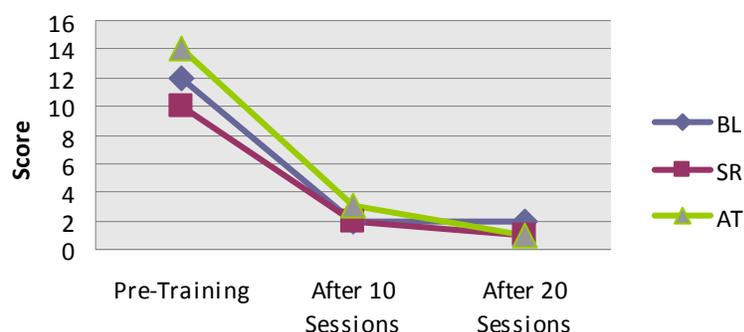
Although Caitlyn did experience some improvement on the medication when she started at The Neuroconnection, she continued to suffer anxiety and depression in the moderate range, based on the Beck’s Depression and Anxiety Inventories that she completed during her initial visit. Some of the symptoms that she reported when she started at The Neuroconnection included: low mood, irritability, emotional sensitivity, generalized and social anxiety, panic attacks, very poor concentration, a tendency to ruminate, low motivation, a loss of pleasure in activities she once enjoyed, and social withdrawal. Caitlyn found that her symptoms negatively affected her work performance and relationships with family and friends.

A QEEG, or brain map, was administered in order to determine where and how to train Caitlyn. Caitlyn then participated in twice weekly CGNFB 4-Channel sessions. Following 20 sessions (10 weeks), Caitlyn made significant gains. Progress was tracked and depression, anxiety, and symptom checklists were administered after 10 and then 20 sessions. Her progress (shown in the graphs) represents the symptom reduction. Overall, Caitlyn reported an 87% reduction in anxiety symptoms and a 100% reduction of depression symptoms within 20 sessions.

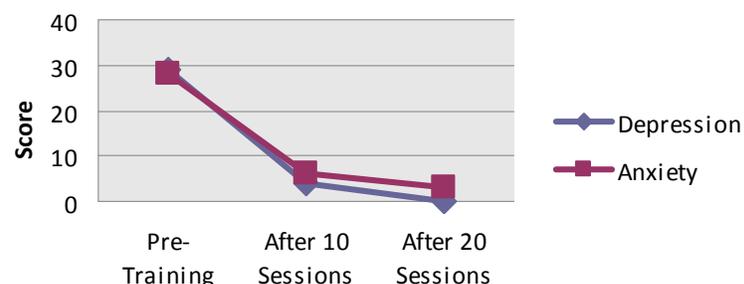
She reported improvement in mood, and also stated that she was able to concentrate at work, increasing her productivity. She stated that she was able to cope with everyday stressors more easily. Caitlyn no longer experienced social withdrawal or any panic symptoms. Her sleep also improved, she no longer ruminated or worried about small things. She also began to spend more time with family and friends. Family members reported seeing a noticeable change and said it was good to have “Caitlyn back”. Caitlyn was able to discontinue her all psychotropic medications and reported feeling “good” without them. Best of all, the changes that Caitlyn experienced are expected to be lasting.

The Neuroconnection is pleased to share the results of Caitlyn’s experience with CGNFB, as she is only one example of the many who have been helped with depression and anxiety at our clinic. With the long-lasting results, we are confident that Caitlyn now has the means to live her life to the fullest and reach her ultimate potential.

Symptom Checklist Scores



Beck’s Depression and Anxiety Inventory Scores



*Name has been changed to maintain confidentiality.

Learn more about The Neuroconnection's director:

Ann Rigby, LCSW, BCN, Founder and Director of The Neuroconnection, and President of the Board of Autism Society of Illinois, has been successfully providing Brain Mapping and Neurofeedback since 2001. The Neuroconnection uses advanced, research based, Connectivity Guided Neurofeedback to help reduce neuropsychological symptoms and create lasting change for the symptoms of autism, attention deficit disorders, learning disabilities and mood disorders.

Ms. Rigby earned her MSW at Washington University in St. Louis. Prior to entering private practice in 1997, she worked in hospitals and outpatient settings and held supervisory positions within them.

She is board certified in EEG biofeedback (BCN) through the Biofeedback Certification Institute of America. She earned a two-year postgraduate certification in Family Therapy and is certified by the Academy of Certified Social Workers (ACSW). She is a member of the International Society for Neurofeedback and Research (ISNR), the Association of Applied Psychophysiology and Biofeedback (AAPB), The Biofeedback Certification Institute of America (BCIA), and the National Association of Social Workers (NASW). Ms. Rigby is a field placement instructor for graduate students from Benedictine University.

Ms. Rigby frequently presents at conferences throughout the year to discuss the benefits of Connectivity Guided Neurofeedback. This year she spoke at the Autism Society of Illinois 10th Annual Parent and Professional Networking Conference, the Special Needs Expo, the 45th Autism Society National Conference and Exposition, and the 2014 Family Time Magazine Autism & Special Needs Seminar. The Neuroconnection is an exhibitor at many national and regional conferences throughout the year.



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