# THE BRANN HEALTH

# The NOCEBO Effect TBI & Anxiety

# **CBD** A Holistic Approach to Wellness

# THE MENTALHEALTH ISSUE

# THE BRANN HEALTH

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# **FROM THE EDITOR**

# Finding Solace

Amy Zellmer, Editor-in-Chief

his year has been a challenge to almost everyone's mental health, regardless of whether or not they have a brain injury. Depending on where you live, some have been in lockdown longer than others, and some have witnessed more devastating hot spots than others.

I originally picked all of the 2020 themes last year, so it truly seems serendipitous that we are talking about mental health in this issue, during the era of COVID, during a Black Lives Matter movement, in what is both the longest year ever, yet is flying by in the blink of an eye.

This year has been particularly challenging for me. I was traveling when the pandemic first hit (Hello, anxiety!) and then came home to a three-month lockdown and isolation. During lockdown my beloved Yorkie, Pixxie, had her fair share of vet visits, during which I couldn't be in the exam room with her. Mid-summer, I had to do the hardest thing I have ever done — I helped her cross the Rainbow Bridge on July 3rd. Fortunately, the vet made an exception and allowed me to be with her during her final moments (Run pain-free, my sweet girl).

Needless to say, my mental health has been on a roller coaster from hell. I have practiced self-care, done yoga, meditated, walked, and allowed myself quiet time ... yet it is still hard to manage.

I want you to understand that it is completely OK to not be okay all of the time, to know that even the best self-care routine doesn't always help us get out of the funk we're in. Depression, anxiety, and PTSD are all very real. If you've never experienced any of them — consider yourself incredibly lucky! After a brain injury, and living with symptoms that doctors continue to tell you either a) there's nothing they can do for it or b) you just have to give it more time, it can be incredibly difficult on your mental (and physical) health. Your fight-or-flight response is in the "on" position and you can't turn it off. It's hard for others to understand, especially if they have never struggled with it themselves. But know this — I see you, I hear you, and I feel for you!

My hope is that this issue helps you find some comfort and relief in what is undeniably the craziest year most of us have ever known. May you find solace and guidance in these articles ... even if you're reading them while in a deep, dark funk.

If you are experiencing suicidal thoughts, please talk to someone. The National Suicide Prevention Lifeline is available 24/7: 800-273-8255.

Peace and glitter and puppy kisses,

f Xmarl

# The Fallacy of "The Pursuit of Happiness"



### BY DR. ERIK REIS, DC, DACNB, CBIS

### We've heard it all before:

"Find what makes you happy and then go after it." "Happiness is the result of success and achievement." And my favorite, "Be on the Pursuit of Happiness."

Before we dive in, I want to make it very clear that these statements aren't necessarily wrong; they're merely flawed and outdated. I will always support people who choose to pursue their dreams, passions, and goals, but first, we need to understand how to get there. And to get to where we want to go, we must first create our internal sense of happiness and well-being to know how these factors play a role in finding success.

Waiting for happiness to come is a losing battle, especially if we get caught in the mindset of waiting for a specific event, date, weight, object, or person to enter our lives. Most people think that finding success will create the happiness they've been looking for, but this logic is severely flawed.

Studies have shown that our external circumstances predict less than 10% of our total happiness, meaning that over 90% of our happiness comes from the way we view the world and internally process our environment! By simply knowing this fact alone, we can change our perspective to understand that our happiness is up to us to create. It won't just happen as a result of an event. Our reality is influenced by our perceptions, which is why we've all been at mercy to a classical phenomenon in neuropsychology called "The Pygmalion Effect," named after the infamous sculptor who possessed the ability to envision his final pieces before they came to life fully. His inner beliefs shaped his outcomes, which reinforced his ability to create something out of nothing by merely using his mind to construct the final result before he even started. While this may sound "too good to be true," we do this every day, starting with shaping our mindset around our daily schedule, relationships, and even our commute to and from work.

We each set a standard expectation of an event (for better or worse), which tells our brain to search and seek out any information in our environment that reinforces these expectations, causing positive reinforcement of our initial expectation and further solidifying this as a truth. It turns out these non-verbal and cognitive biases set us up for success (or failure) depending on how we look at the world, as we can always find a way to choose to see the glass half empty or half full when we focus on it. In this light, a true self-fulfilling prophecy can be a powerful thing in shaping our subjective reality and subsequent objective outcomes of our world.

"Studies have shown that our external circumstances predict less than 10% of our total happiness, meaning that over 90% of our happiness comes from the way we view the world and internally process our environment!"



Last, waiting for happiness to come is like a novice actor waiting to win an Oscar without putting in the time, energy, and effort. We know that the mere anticipation of a reward can light up pleasure centers in the brain as much as actually receiving that reward, which is why envisioning yourself winning can be so powerful in changing the way your brain views your world. Your mindset doesn't just change how we feel about an experience; it can literally change the objective results of an experience!

We've known about the power of the placebo effect for quite some time now, yet it continues to amaze the scientific community about how vast the results can be for people who experience them. They're so powerful that when administered in the correct pretense (i.e., this will "help" or "heal" you), placebo sugar pills have been shown to be 55 to 60% as effective as most pain medications, like aspirin and codeine.

# "Your mindset doesn't just change how we feel about an experience; It can literally change the objective results of an experience!"

So if we can use our brains for making positive changes in our body, wouldn't it make sense that we could use the same pathways to make positive changes in our reality and happiness? The answer is a resounding yes!

Since our brain manifests our reality based on what we expect to occur, a principle appropriately labeled "Expectancy Theory," proposes that we all possess the innate ability to change our reality by choosing a specific emotion rather than waiting for that emotion to manifest. And if this is possible, then we must all intentionally take action to create our happiness instead of searching for the "pursuit of happiness."

Although this may take some time, it's 100% possible and scientifically validated to change the way you view your world, regardless of your current circumstances or condition. "So if we can use our brains for making positive changes in our body, wouldn't it make sense that we could use the same pathways to make positive changes in our reality and happiness? The answer is a resounding yes!"

And here's an easy way to start right away: List three different positive or happy events that happened throughout your day. They don't have to be big or small, just merely something positive that occurred to you or around you. It's usually best to voice this to another person, as it can keep you accountable for doing it consistently and can also be a great way to share the spread of positivity and happiness with others, further fueling the fire of positive reinforcement.

# I promise you; you will feel different! It's time to create your own happiness! Å

**Dr. Erik Reis** is an international speaker and educator, with over six years of clinical experience as a Doctor of Chiropractic and board-certified Functional Neurologist. He is the founder of SHIFT, which empowers employers to optimize workplace productivity and employee engagement by implementing simple solutions and habits that integrate neuroscience, functional nutrition, mindfulness, and holistic coaching practices. For more information: www.shifttogreat.com

# DO YOU GRIN AND BEAR IT?



**BY KELLY HARRIGAN** 

s this you? When someone is asked to describe you, they say you are an active, happy, outgoing person. Your friends say you're a great cheerleader and a huge support to them. Co-workers are amazed at how efficient you are at your job. Your house always looks wonderful. Your typical response is "Everything's great!"

Yet inside, you feel alone, sad, exhausted beyond words. You suffer from a lack of self-confidence. You do not enjoy your hobbies as much as you once did.

# You may be someone who suffers from "smiling depression."

You present a façade to the world because you think that others are worse off, so why complain? Maybe you feel you are placing a burden on your loved ones if you express your true emotions or that you would be perceived as a "weak" individual. The phrase "I'm fine" gets harder to say every time you're asked how you are.

# The Glitz and the Glamour

We live in an age where almost two-thirds of Americans are on social media and people are inundated with pictures of how seemingly great everyone else's life is. You follow all your favorite celebrities' handles and your friends always post their best moments. You may feel that everyone else is living their fairy tale so why didn't yours come true?

That is a misperception. Most people don't want to express to the world on social media sites that they aren't living their best life every minute for fear of being rejected, being told to try harder, or to buck up and get on with it. To quote Rufus Sewell's character in "A Knight's Tale," "You have been weighed. You have been measured. You have absolutely been found wanting." No one wants to be judged, feel as though a stigma is attached to them, or that they've been labeled a "problem." This constant presentation of people's best sides on social media creates a void of realness and paves the way for high-functioning individuals to smile as they silently suffer. Great expectations may also increase your risk of smiling depression. Perhaps you are a perfectionist. You feel you ought to live up to the expectations of your family, friends, and co-workers. Or maybe after scrolling through your social media feed, you feel pressured to be bigger and better at everything. Perceptions of what others desire of you, or the impossibly high standards you set for yourself, can lead to an increased risk of smiling depression.

# I don't have any depressive symptoms.

The WHO (World Health Organization) has presented research showing that people suffering from smiling depression often present conflicting depressive symptoms to that of classic depression, which may complicate a diagnosis. Maybe you think it is easier to cheer up your friends than yourself. You laugh along yet inside there is an emptiness. You tell yourself everything is fine although it's exhausting to present that façade to everyone. That sense of loneliness is pervasive because you think no one would understand you. You cannot self-validate and use self-deprecating humor to cover your true feelings. You cry when you are alone. You've built this fortress around your heart with walls that extend a mile high. You don't want to be a burden because you have to be strong for others. You experience physical symptoms related to depression which doctors may incorrectly diagnose as a physical ailment. You deserve an Academy Award for Best Actor/Actress in a starring role from the feature film "Your Life." These statements present the picture of how smiling depression manifests itself.

Treatments include medication, psychotherapy and, of course, lifestyle changes. It could be the hardest thing for you to do, but it may be the most important step you can take for yourself: Talk to someone. Let us see your genuine smile. &

Kelly Harrigan is a single mum, veteran, TBI survivor with a girl child and a frenchie, oolong tea in hand and humor on hand, who lives in Annapolis, Maryland.

BY JACOB MEYER LSW, LAC

The gap between our perception of what brain injury recovery should be like versus the actual process of recovery can be confusing for a person who is just trying to get back to normal life. The common perception of brain injury recovery is that you may experience symptoms such as headaches and need to avoid light temporarily. Actual recovery from a brain injury is different for everyone and treatment varies widely from person to person. Some people are simply able to bounce back while others find themselves in a several-year recovery period with worries about how they will ever get back to normal. For more serious cases I often find psychotherapy to be beneficial to long-term recovery efforts. Below are three common reasons why:

# **Increased Emotional Reactivity**

One of the most common issues I see patients struggle with early in the course of brain injury recovery is the increased emotional reactivity they find themselves dealing with. Patients are often bewildered, confused, and ashamed that they are struggling to maintain the emotional stability they are used to. Many patients don't understand that increased emotional reactivity is common in brain injury recovery due to increased symptoms of anxiety and depression. Anxiety and depression commonly contribute to emotional instability and an increased presentation of irritable or emotionally reactive states. Individual psychotherapy helps to identify, contain, and help mend the reactive mind through exploration of negative feeling states. I also include mindfulness meditation breath work to increase the patient's time in calmer states. Evidence has shown it helps toward positive structural changes in the brain.

# Invisibility

The difference between how an injury is perceived by ourself and others in our recovery is its degree of visibility. Many of us stop and will try to be helpful to someone who is struggling with a clear physical signal like a cast. We will open the door, ask if they need help, and might even sign the cast as a symbol of well wishes. However, a common issue with brain injury recovery is the lack of visibility. Patients dealing with brain injury recovery are typically able to present as mostly okay and people in their environment will typically expect them to be completely back to normal shortly after their injury. The lack of understanding of

Continued ...



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brain injury recovery, combined with someone looking normal, can create a conflict of expectations that results in increased stress. Patients benefit from psychotherapy because they and their struggles are visible to the therapist along with being able to learn how to communicate more smoothly with people and their environment about their recovery.

# Long-Term Recovery

One of the most difficult things for patients in brain injury recovery is getting used to the long-term recovery that is necessary. Fears often emerge during treatment about whether they will ever get back to their full self, be able to work, or sometimes they fear they will be injured again.

Long-term recovery efforts include setbacks along the way. Once a person finally feels some daylight in their recovery they can feel completely back to normal, setting themselves up for a crash in symptom reactivation. This can be extremely frustrating for patients that have been suffering for a long period of time. Psychotherapy is beneficial due to the ups and downs of recovery being normalized by a therapist who is experienced in supporting those who have long-term recovery needs.

Brain injury recovery is a difficult and long road for many. If you feel like any of this resonates with you or a loved one, I encourage you to reach out for a consultation today. &

Jacob Meyer, LSW, LAC, works with patients who are experiencing chronic pain, chronic illnesses, TBIs, autoimmune issues, anxiety, depression, trauma, addiction, perfectionism, and relational dysfunction. Jacob is passionate about helping his patients become stronger through the therapeutic process and understands that issues present in ways that are unique to every individual. Jacob works to help people find their way through what they are experiencing and onto a path that they want to take. <u>www.integratedbraincenters.com</u>



ndividuals suffering from traumatic brain injuries commonly present with complaints that include headaches, dizziness/vertigo, depression, and anxiety. Traumatic brain injuries can come with a myriad of symptoms, but sometimes individuals will suffer from symptoms that actually result from various causes unrelated to the brain injury.

You may be asking yourself what causes these types of symptoms and are they possibly related? One of the most debilitating symptoms after a TBI can be anxiety, which can affect all aspects of a person's life.

After a TBI, it is common for individuals to describe their anxiety as uncontrollable, appearing from nowhere with no cognitive or psychological trigger. Some feel the anxiety is coming from deep within their body.

These symptoms can be secondary to an injury to numerous areas of the brain along with neuroinflammation and microglial priming, which can lead to altered brain function and neurochemistry. They can also be secondary to altered sensory processing of the environment around us.

# **Sensory Processing**

Our brains are always scanning our environment to determine our immediate safety. We take in information from various sensory organs (inner ear, eyes, muscles and



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joints, and sound) to give us an idea of our environment. This information is processed first in the subconscious areas of the brain where it is then sent up through various filters into higher areas of our brain. These higher centers help us make sense of our feelings and to form a conscious thought or emotion about our environment. These systems can be negatively affected after a TBI, such as in how the brain processes multiple signals such as visual information and even gravity, and how the brain merges these multiple signals.

Our sensory systems are the foundation to the brain and how it experiences the world. When they break down, individuals can become extremely anxious and even terrified to leave their house.

# **Brain Map**

One way to think about how your brain's senses help you appropriately interact with your environment is to think of the brain like a map. Your inner ear gives you your starting position in the world — your longitude and latitude. Once you have those coordinates, your eyes can now help you understand where the world is relative to your head. A head injury can skew one's perception of the world. This mismatch creates constant error signals in your brain and those error signals can be extremely stressful and taxing.

Your neck helps you understand where your body is relative to your head, and an injury can sometimes distort our perception of the head-body connection, which can lead to all sorts of symptoms but especially symptoms of unease and discomfort about how your body feels. Some patients will say they don't feel like their body is theirs or they don't feel connected to their body. As you can imagine, this can cause great anxiety.

# What to do

Anyone who has suffered a TBI and is experiencing anxiety needs a complete workup, one that includes inner ear testing, balance testing, and visual tracking testing, as well as a comprehensive neurological examination and comprehensive lab work.

Far too often, individuals who suffer anxiety after a TBI are medicated and pushed aside. It is paramount that doctors examine all possible causes of anxiety after a head injury, and most importantly, alterations in sensory processing. If an individual is suffering disorientation, dizziness, or motion sensitivity, it will more often than not cause anxiety and/or make one's preexisting anxiety worse. If anxiety is secondary to issues with sensory processing then treatments like vestibular rehabilitation, vision therapy, and manual therapy can be extremely helpful in treating the anxiety and results can occur relatively quickly.

**Dr. Perry Maynard** specializes in the management of complex neurological cases. He enjoys taking principles from cutting edge neuroscience and applying it to sports rehabilitation and overall human performance. www.integratedbraincenters.com

# THE NOCEBO EFFECT: When Our Thoughts Make Us Physically III



# BY JONATHAN CHUNG, DC

Imost everyone knows about, or has heard of, the placebo effect, the seemingly magical ability for our bodies to feel better or overcome illness from a belief in a treatment that has no specific biological effect.

It's one of the things in medicine that we are always wary of, especially when selecting treatments associated with alternative medicine. After all, no one wants to waste time, energy, or money on something that isn't supposed to work. It feels like you're getting scammed, even when the end result is positive.

However, there is a lesser known effect that I believe is a more harmful phenomenon that isn't being discussed. It's more pervasive in the entirety of healthcare, and it's societal ramifications can have massive implications on outcomes related to your own health.

We're talking about the Nocebo Effect.

# Nocebo, No Bueno

Where positive beliefs about a treatment lead to positive health outcomes in placebos, nocebos occur when negative beliefs about a treatment or condition lead to negative health outcomes. We don't really think about nocebos because, in the context of healthcare, we are not really encountering clinicians or practitioners who are intentionally trying to make us feel worse. It's just a poor business model.

Nocebos affect us in much more subtle ways. They happen when patients have false or exaggerated beliefs about a treatment, condition, or situation, and these beliefs can often come from well-intentioned providers or social media influencers.

# Here are some of the examples of known nocebic responses in society:

- People who think they are sensitive to MSG and feel sick after eating Chinese food with suspected MSG, but feel perfectly fine eating MSG-rich snack foods.
- Patients who take a placebo pill in a drug trial and hear a list of potential side effects, are much more likely to experience those side effects compared to patients with no knowledge of any side effects.
- In 1998, a teacher in a Tennessee school reported a "gaslike" smell inside a school. The school was evacuated, and the ensuing panic from a suspected gas leak led to over 100 students and staff going to the emergency room, with 38 of them being hospitalized overnight. It turned out to be a false alarm and no leaks or chemicals were detected. It was considered a mass psychogenic illness.



You may think those people were possibly mentally weak or just faking it, but remember this because it's super important: People experiencing nocebos are not faking their illness. Their symptoms and experiences are very real, but the cause of their pain or illness is not what they think it is.

Patients with concussion or other forms of brain injury can be affected by nocebos as well. There is a lot of fear about concussion because of the rise of chronic traumatic encephalopathy (CTE). While the overwhelming majority of patients with concussion will recover normally and never have to worry about CTE, we have seen a lot more fear about head injuries in our communities related to this disease. When people have excessive fears about their condition, or too much of their identity gets wrapped up in their condition, the nocebo effect can greatly prolong recovery times.

# Are Doctors Creating Nocebos?

One example we see often in chiropractic are beliefs about X-ray or MRI findings. Many patients, after getting X-rays and MRIs, show signs of disc degeneration or disc herniation. Disc herniations, in particular, are known to cause radiating arm and leg pain, especially in the acute phase of injury.

Doctors frequently tell people that they can't play sports anymore or lift heavy things because they have disc herniations. But there is overwhelming evidence showing disc herniations don't necessarily cause chronic back pain. In fact, most disc herniations are completely asymptomatic!

By the time we are 50, we will all have disc degeneration, and most of us will have bulging discs, and we will walk, run, and exercise fine without any pain! A large study using MRI on patients without pain showed that common MRI findings associated with pain are present in pain-free people as we age.

But if a patient with a disc herniation has been convinced that their back is weak from herniation, and has been told they should avoid exercise, the patient is predisposed to nocebo and is likely to resist one of the best things for the chronic back pain patient . . . exercise!

As clinicians and healthcare providers, we have to be extremely judicious with our words when interacting with patients. We are responsible for knowing when something has life-altering consequences and making the appropriate recommendation for care. On the flip side, we have to be informed and know when a diagnosis is probably selflimiting and allow the patient to feel empowered that they're going to get better, with or without our help.

# **Combating Nocebos**

None of us are immune to the effects of placebos or nocebos because of the powerful influence that beliefs have on human physiology. Our brains love to create patterns out of noise in order to make sense of the world, and the easiest way to make sense of the world is when our perception matches our beliefs. It is important to have strategies that reduce the impact of nocebos because nocebos can decrease your ability to recover from chronic pain and illness.

I've seen too many patients come into my office who have become so scared of normal human behavior that they may as well cover themselves in bubble wrap. This is no way for a human being to live.

# So how do we counter the effects of nocebo? Here are some major factors I've seen in practice:

- Never Make Your Diagnosis Your Identity: You would never willingly allow someone to steal your credit card or Social Security card, but you should be even more protective about what you allow to become your identity. When people make their diagnosis their identity, they become resigned to accept all of the possible negative consequences of their diagnosis as an inevitable part of their life.
- Embrace the Idea That Your Body Is Resilient: One of the first things we teach patients in our office is that their body is capable of healing itself. Believing that your body is capable of facing challenges and enduring allows someone with a condition or illness to not allow the condition to hold them back.
- Don't Trust Health Providers That Scare You Into Treatment: One of my biggest pet peeves in the world is when I hear other providers use a patient's condition to scare and coerce them into procedures. I see patients every week whose doctors have told them that a small herniation is a risk for paralysis if they get into another accident and that the only solution is surgery. I've also had patients whose chiropractor told them that they had the worst spine they've ever seen because they had some signs of age-related disc degeneration on their X-ray.

# This. Is. MADNESS.

As healthcare providers, we have to ensure that our words don't compromise the ability for a patient to get better. When fear and scare tactics are used to coerce people into unnecessary treatment plans, we are not only abusing our patients' trust for financial gain, we are also compromising the outcomes of patients who simply want to get better.

We have to do better and help all of our patients combat this insidious plague on our patients by empowering people to have faith and confidence in their ability to heal.  $\aleph$ 

Jonathan Chung, DC, is the founder and upper cervical chiropractor at Keystone Chiropractic and Neuroplasticity in Wellington, Florida. Learn more about their cervical vestibular rehabilitation program at www.chiropractickeystone.com



# **CBD** A Holistic Approach to Wellness

### PHOTOS AND STORY BY AMY ZELLMER

y personal CBD journey began several years ago after meeting Joe Russo at a brain injury conference in Utah where I was keynoting.

Joe told me he had been following me for a while, and shared his own TBI story with me and how CBD has helped him in his recovery.

I had been searching for a CBD company I could trust. I knew about the "junk" out there that is full of fillers/ chemicals and wouldn't actually provide any benefit. I was relieved when Joe told me about Entangled Biome, founded by his college friend Dean Foor. Dean is a believer in purity, quality, and integrity and I was instantly drawn to their product. They have an entire line of products, including tinctures, salves, bath fizzies, and more.

Joe gave me a bottle of tincture to try. That night I slept like a baby. Thinking perhaps it was a fluke, I continued taking it nightly with the same amazing effect. Over time I noticed my headaches weren't as intense and, overall, my body and energy levels felt great.

Over the past few years since first trying Entangled Biome's CBD, I have become friends with Dean, and am an enthusiastic supporter of their product line. It is organic (the hemp is grown on a 30-year organic farm with a tree barrier to prevent any drift ((pesticide)) issues) with zero additives, heavy metals, or toxins. Their finished product is pure full-spectrum hemp oil (FSHO).

Dean is a civil engineer by trade, who worked in renewable energy for 10 years, but has spent over 25 years cultivating medical and culinary mushrooms, and working with medical marijuana.

He became interested in CBD when recreational marijuana became legal in Oregon. He wasn't interested in the intoxicating effects from TCH, yet knew the medicinal benefits of Cannabis, so he began experimenting with FSHO.

Hemp and marijuana both come from the Cannabis plant. To be legally considered hemp, the TCH level must be under 0.3%. Entangled Biome strives to keep their products under 0.1%, noting that THC is a valuable component to FSHO and, without it, a lot of medicinal benefits are lost. FSHO has over 140 cannabinoids which offer a vast array of benefits. Stripping them away reduces most of the medicinal value of the CBD product. Unfortunately, many companies will further refine their CBD: distillation removes terpenes and flavonoids, while isolates take it even further — reducing it to a single molecule of CBD (remember those 140 cannabinoids?? They're pretty much completely gone at this stage).

These processes not only strip the THC, but the medicinal benefits and length of relief as well: FSHO will provide 6 to 8 hours of relief, a distillate will provide 4 to 5 hours of relief, while an isolate will only provide approximately one hour of relief.

Dean and his co-founder, Jeff Ballard, have begun adding adaptogenic mushrooms to a variety of their products to offer further medicinal benefits. Having already worked with mushrooms for several decades, Dean knew it was something he wanted to add to the product line.

"I spend two-thirds of my time working on new product development and one-third on maintaining existing products," stated Dean. He enjoys trying new ideas, and is open to requests from his customers. He recently created a "healthy menopause tonic" at the request of a customer, which includes chastetrea berry, motherwort, black cohosh, and licorice root. He is also experimenting with maitake mushrooms to create products that benefit blood pressure.

### The possibilities are endless and so are the benefits!



Continued ...

1 Hand-harvested, hand-shucked organic hemp











It then goes into the evaporator to separate off the alcohol. The vacuum allows it to evaporate at a lower temperature and more quickly without high heat.

- 5 The result is Full-Spectrum Hemp Oil (FSHO)
- 6. It is then blended with a carrier oil, such as organic sunflower; or with a locally produced organic honey.
- Finally, it is bottled into tincture bottles. &







Receive 15% off your first order with code: **15tbitribe** <u>www.entangledbiome.com</u>



# A Nutritional Approach to Anxiety





### DR. SHANE STEADMAN, DC, DACNB, DCBCN, CNS

ccording to the Anxiety and Depression Association of America (ADAA), anxiety disorders are the most common mental health disorder in the United States, affecting over 40 million people a year over the age of 18. They go on to say that anxiety disorders are treatable but only 36.9% of people receive treatment.

The many different types of anxiety include, but are not limited to, generalized anxiety disorder (GAD), social anxiety, phobias, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD). Many factors can cause or contribute to anxiety including stress, trauma, genetics and environment... to name only a few.

Anxiety involves an area of the brain referred to as the limbic center. The amygdala, the most talked about area of the brain, involves fear and anxiety. Other structures involved in the limbic center are the cingulate and the insular cortex. The frontal lobe is one of the main regulators of the limbic system and represents an inhibitory top-down control of these emotional centers.

When evaluating anxiety, it is important to look at the health of both frontal lobe structures and limbic structures. Most often, a disruption is seen between both of the higher cortical areas of the limbic center. The limbic center can be overactive and/or the frontal lobe can be underactive. A natural approach for support will include evaluating and understanding the functionality of the overall brain, specifically the higher cortical areas and the limbic center. Practitioners who specialize in this type of rehabilitation can provide a treatment plan that works toward reducing the dysfunction between the two systems. Consideration needs to be made with the neuroendocrine and the neurochemistry aspect of anxiety. The inhibitory neurotransmitter gamma-aminobutyric acid, or GABA, can be decreased, leading to an increase in limbic activity as well as an increase in the excitatory neurotransmitter glutamate. There are mechanisms that can impact neurotransmitters. One example is the stability of glucose on GABA. Many have experienced this imbalance when they go without eating for a long period of time. The decrease in glucose can lead to a decrease in GABA and lack of inhibition to limbic centers. Another example is the impact of progesterone on GABA, which is often seen with fluctuation in hormones during a menstrual cycle and could explain the changes in mood at times during the cycle.

A stress response causing an increase in cortisol can activate limbic centers. This is widely discussed in the role of stress and PTSD. Therefore, an imbalance in hormones, blood sugar, and cortisol can lead to anxiety. A natural approach would be to stabilize blood sugar through proper dietary habits and stabilize and provide proper support of hormones, if needed, as well as stress management. Stress management can be via natural supplementation, counseling, exercise, mindful meditation, and much more.

Other neuroendocrine influences are neuropeptides, which can be found in the gastrointestinal (GI) system. Examples of neuropeptides include cholecystokinin (CCK) and Galanin. CCK is found within the GI system and the vagus nerve. CCK and galanin have influences in the limbic system, giving way to the brain-gut relationship.

Gastrointestinal disorders can cause or contribute to anxiety disorders. A natural approach would be to evaluate your own dietary habits and work on proper digestive support. This can be done with supplemental support such as l-glutamine, aloe, and DGL. Eating foods that cause inflammation will result in neuroinflammation and, potentially, increased anxiety. It has also been clinically understood that there is no "one-size-fits-all" therapy. Many therapies have been developed over the years to address anxiety and the many subtypes, including natural approaches such as cognitive behavioral therapy (CBT), exposure therapy (ET), and eye movement desensitization and reprocessing (EMDR). They are offered by most licensed therapists.

Anxiety may seem like something easily treated but it is often difficult to manage. The intricate web of function and dysfunction is real, but working with someone who understands the intricacies, untangling the web can be successful.

Each individual is unique in their own struggles, genetics, trauma, environmental factors, and physiology. With

proper evaluation and management, there is hope. The obstacle becomes finding a practitioner that has a holistic approach and is willing to keep digging. The natural approaches to anxiety, such as working on blood sugar stability, stress management, and dietary habits may be simple but can be powerful. Working on the foundations can provide the ability for therapies and/or treatment to have a bigger impact. &

**Dr. Shane Steadman, DC, DACNB, DCBCN, CNS** *is the owner and clinic director of Integrated Brain Centers.* To learn more about how we can help with concussions, stroke and TBIs, please visit <u>www.integratedbraincenters.</u> com. For a free consultation, please call 303-781-5617.



# BY GIANCARLO LICATA, D.C. **ANGER**, **DYNAMITE**, AND HEALING THE FRONTAL LOBE

Steven's family had grown accustomed to his frequent bouts of anger, but it was getting to be too much to bear. As a retired professional mixed martial arts fighter, he was no stranger to concussions, and anger was only one of a laundry list of symptoms he'd learned to manage. However, it wasn't until his quantitative electroencephalogram (qEEG) results came back that we were able to connect his anger to his frontal lobe and begin to help him heal.

# History of Anger, Dynamite, and the Frontal Lobe

In 1848, Phineas Gage, a railroad foreman in Cavendish, Vermont, unwittingly became neuroscience's most famous (or infamous) case study. Gage, 25, was using a tamping iron to pack explosive powder into a hole when the powder accidentally detonated. The tamping iron, nearly 4 feet long and weighing over 13 pounds, shot up through Gage's left cheek and out the top of his skull. He miraculously survived yet began to develop severe personality changes including severe anger, extreme impulsivity, inability to complete tasks, and "the grossest profanity."

Studies since have linked regions of the frontal lobes to changes in social-emotional behavior. Left frontal lobe injury has been linked with symptoms resembling depression (pseudodepression), and right frontal lobe injury has been associated with symptoms resembling psychopathy (pseudopsychopathic). Studies have also suggested that emotional symptoms are amplified when both lobes have been injured, including severe anger, violence, and suicide. So is it possible to have injuries to the frontal lobe, yet not have them show on MRI?

# Types of Frontal Brain Imaging: Functional and Structural

An important lesson all doctors, and TBI sufferers, have had to learn is that no single brain imaging technique will give the "whole picture." Currently, most forms of brain imaging can be grouped into two categories, functional imaging and structural imaging, with structural imaging being the most covered by insurance. Why does this matter? Well, structural imaging techniques, like MRIs and CT scans are best used to detect certain brain issues like bleeding, tumors, and other injuries that leave a structural deformation in the tissue. However, functional imaging techniques like electroencephalograms (EEG), single photon emission computed tomography (SPECT) scans, and functional MRIs, are best used to detect more subtle changes in brain health included electrical firing, blood perfusion, and metabolic activity. I often use the example of a broken laptop computer to make my point. I can take my MacBook to get repaired, and the young man at the Genius Bar can look at the structural components of my laptop and not notice any dents, cracks, or missing keys on my keyboard. But he would be limited in his ability to tell me what is wrong with my MacBook until he begins to do more functional tests to measure RAM, video processing, and temperature.

Continued ...

# Imaging the Frontal Lobe with EEG and qEEG

Electroencephalography (EEG) has been used traditionally in sleep and seizure science. However, it is increasingly being used to measure the quality of normal brain functions like resilience, impulsivity, and emotional regulation. The Massachusetts Institute of Technology (MIT) is leading the way in EEG research, but others like Columbia University in New York are close behind. The qEEG advantage is it allows an individual's brain to be compared to other individuals of the same age and sex, to measure how "normal" your brain waves are behaving. Both types of functional brain testing give tremendous insight, even when your MRI results come back "negative." However, the million dollar question most of my patients ask is: "So, what can I do about it?"

# Neurofeedback, and HeG Feedback Training

The value of EEG and qEEG testing is in the ability to "train" the brain using real-time feedback, called neurofeedback. Brain electrical activity is monitored using EEG sensors resting on the head, which is then processed through computer software and fed through a video game. Individuals can "learn" to train their brain to change its own brain waves, thus improving many areas, including resilience, emotional regulation, and impulsivity. HeG training is another wonderful tool that uses infrared sensors to help stimulate blood flow to areas of the frontal lobe that have been injured from TBI. Studies have shown significant positive improvements, and yet the proof is in the pudding for TBI sufferers.

# Neurofeedback and Anger, Impulsivity, and Emotional Regulation

"Mark" trained for 16 weeks, after getting his first qEEG. His initial qEEG showed much lower brain function across his frontal lobes compared to other men his age, as well as many other signs of altered brain wave activity. He trained using neurofeedback as well as HeG feedback and was beginning to feel less impulsive and aggressive after about four weeks. His family began to notice the changes and soon his wife and daughter began their own training. At the completion of 16 weeks of training he was measurably improved and his follow-up qEEG showed great improvement in his brain wave activity.

# Not a Cure-all.

While measuring and training the electrical activity of the brain can be life changing, it has its limitations and is not for everyone. Individuals with significant metabolic impairment or sensory sensitivity may not respond well to training until they undergo more healing. The training comes with a relatively hefty price tag, between \$3000 and \$10,000 for 16 weeks. And not all neurofeedback offices are created equal, which makes it hard to determine how effective your particular training may be. Finally, there are geographical limitations. The hurdles may be high for many TBI sufferers, but the results can often be worth it.

# Conclusion

If anger and emotional regulation has been a challenge for you since your TBI, you may want to look for ways to test your frontal lobe function. EEG and qEEG may be great ways to do this at a fraction of the price of more expensive functional tests like SPECT scans. The added value is that if your case fits the criteria for neurofeedback, you may be able to train your brain to heal these injured areas, and possibly help improve your mental health.  $\clubsuit$ 

**Dr. Licata** *is founder of Vital Head and Spine Care, with his focus on applied neuroscience, chronic pain, and inter professional collaboration. He is keenly aware of the importance of restoring and improving brain function to achieve health and performance.* **www.vitalheadandspine.com** 



# Finding My **BANDWIDTH**

ow are you?" Dr. C. asked, as she always did at the start of my appointment. She accepted me as her patient about eight months after I suffered a severe traumatic brain injury. For the first few years, she concentrated on finding the right medications to help manage my ice-pick headaches, grinding fatigue, and depression. I would ask the same questions each time, trying to understand what had happened to my brain and what might happen to it next. She patiently answered my questions, soothing my constant fears.

When I was more stabilized, she focused on what I could do, and what I should not do, to increase my agency over my own brain health. On this particular day, she listened to my litany of concerns and worries and then said, "You need to find your bandwidth, and then stay in it."

Hmmm. "Bandwidth." What did that mean?

An image of two thick parallel lines separated by some space flashed in my mind. At the time of her bandwidth comment, I had been living with traumatic brain injury for seven years. I knew the limits of my energy; I understood what sapped my strength and what was calming. I could identify the stressors in my life.

The idea of bandwidth gave me a map, with guidelines to follow, and an understandable way to explain, not justify, what living with TBI looked like in my life. I knew, without being told, that I had to stay within those boundaries that held the limits of my physical, mental, and emotional resources, or I would significantly jeopardize my brain health.

As I write this essay, I've lived with traumatic brain injury for almost eleven years. Let me introduce you to my bandwidth.



### **BY JOANNE SILVER JONES**

• **Time:** *Time equates to energy.* 

By 5 or 6 pm, my energy is mostly depleted. Though I've become more able to be productive during the day, and I have less need to take a long nap, I limit evening commitments and try to make sure that I don't go out on consecutive days. I no longer apologize or try to explain why I limit my commitments. I simply decline graciously.

I try to make sure that I have periods of quiet every day, time when I'm not engaged in any form of paying attention. I use this time to meditate, practice yoga, take a walk, or simply sit quietly outside.

• **Voice:** *Expressing your needs increases the possibility that they will be met.* 

I now identify what I need and what I find stressful, rather than grit my teeth through a situation, sulk because I don't want to be someplace, or hold my closest family members responsible for somehow intuiting what I need.

I have become increasingly aware of the kinds of situations that are stressful for me. I'm learning how to absent myself from those situations, limit my involvement, or practice ways to reduce the stress I'm feeling. Wherever I am, I can stop and breathe slowly for a minute. I can acknowledge feelings of anxiety and seek support (usually from my wife) in strategizing ways to reduce the anxiety.

• **External environment:** Your milieu can contribute to healing or exacerbating your stress.

Your milieu can be amended. Sometimes remaining in the bandwidth means removing external barriers.

I had a lovely home but found, after TBI, that the demands of homeownership were too stressful. My wife and I sold our home and moved into a small apartment. I got rid of the preponderance of my possessions. I created external order because my brain could no longer process so much competing stimuli. I had to change my environment to one that could fit between my lines.

I try to stay away from noisy spaces, crowded places, flickering lights, and events with many conversations happening at the same time.

Living within my bandwidth, for me, is neurological decluttering. I am more relaxed, accomplish more, and feel more content as I take responsibility for my own needs. Live between the lines. &

**JoAnne Silver Jones** was a college professor and is now a TBI survivor and author.

# **The Gut-Brain Connection:**



How the Bacteria in Your Gut Influences Mental Health

BY DR. LORI JOKINEN

early 100 trillion bacteria live within your body, specifically in your intestines, that are key to your overall health and immune function. These bacteria are also essential in breaking down carbohydrates, but even more fascinating is their importance to the function of the central nervous system. What this means is that these bacteria, collectively known as your microbiome, actually affect your brain.

The very first step in colonizing bacteria starts at birth and continues within the first few days of life. When babies are born, they are exposed to mom's bacteria with contact on their skin. Colonization of the bacteria continues with breastfeeding, as breastmilk has two of the most common probiotics, or good bacteria, called lactobacilli and bifidobacteria. Breast milk also contains something called colostrum, which has prebiotics. Prebiotics are the food that feed the good bacteria and are prevalent in breast-milk, especially in the first two weeks of life. What all of this means is that the development of your microbiome starts at birth and continually changes throughout your life.

There is significant variability in the bacterial makeup of individuals. The variation can be in the different kinds of bacteria, known as diversity, and in the amounts of bacteria. This is due to the fact that the microbiome is very dynamic and highly influenced by several factors. It starts at birth, but is then further affected by genetics, diet, metabolism, age, geographic location, stress, medications, and the presence or absence of antibiotic treatment. When these contributing factors come into play, the makeup of the microbiome will shift, which then can cause a host of symptoms, including anxiety and depression.

When a person is stressed, anxious, or depressed, dysregulation occurs in an area of the brain called the hypothalamus and pituitary, and their connection to the adrenal glands. This is known as the HPA (hypothalamicpituitary-adrenal) axis. Research studies have shown a direct link between the microbiome and the reactivity of the HPA axis. In the presence of stress, long-term changes in the diversity and composition of the gut microbiota can be seen.

When you are stressed, there is an increase in intestinal permeability, which is not desirable. Known as "leaky gut," it allows bacteria to enter the bloodstream, gain access to the brain, and can lead to a damaging cascade of inflammation. This is the pathway where the bacteria that are present in the gut can affect the brain. If the microbiome is not healthy, and there is an abundance of bad bacteria and/or not enough good bacteria, the brain is then affected.

An inflamed brain damages the tissue and ages the brain more quickly, which has been shown to cause an increase in anxiety or depression, brain fog, fatigue, and memory loss. The good news: The brain and gut are both responsive to natural therapies aimed at improving the microbiome and decreasing inflammation. Interestingly, treatment with probiotics has shown promise in decreasing intestinal permeability and regulating the HPA axis, which then can decrease anxiety and depression.

A multitude of probiotic strains can be found in supplements, and they all have different effects in various areas of the body. Specifically, L. rhamnosus, B. infantis, B. longum, and L. casei have been found to decrease anxiety and depressive behaviors in research studies, so using those strains may give some relief of symptoms. In addition to taking a supplement, your diet plays a big part in the makeup of your microbiome.

One of the most effective ways to increase the diversity of the bacteria in the gut is to eat a wide variety of fresh vegetables. Typically, people get in the habit of eating

> When you are stressed, there is an increase in intestinal permeability, which is not desirable. Known as "leaky gut," it allows bacteria to enter the bloodstream, gain access to the brain, and can lead to a damaging cascade of inflammation.

certain foods, and may even eat the same thing every day. This actually hurts our microbiome, our immune system, and our brain. Adding different vegetables that you haven't eaten before can quickly transform the microbiome, as you will be consuming a host of different bacteria.

Research has also shown that omega-3 supplements can have a positive effect on the composition of the microbiome and increase the production of anti-inflammatory compounds. Together with good bacteria, fatty acids can help maintain the integrity of the intestinal wall and reduce leaky gut. Omega-3 fatty acids can be found in fish oil supplements and in foods such as salmon, sardines, and walnuts. The role of the microbiome in mental health cannot be stressed enough. From the day we are born, our health depends on our exposures to good bacteria, stressful situations, the use of antibiotics, and our diet. A simple, yet effective, solution to improving your mental health may lie in your gut. &

**Dr. Lori Jokinen** is a Doctor of Chiropractic specializing in functional medicine, nutrition, sports rehabilitation, auto accident injuries, and acupuncture. She incorporates nutrition into all of her patients' care plans. www.functionalhealthunlimited.com

# 5 Ways **SODALITE** Supports Mental Health



BY KRISTEN BROWN HEALTHY LIVING

hether you need mental clarity, calming, a recharge, or some other type of mental support, Sodalite is your friend. It has so many powerful qualities that it has easily moved to the top of my list as my most-used crystal!



# Here are five ways Sodalite can help support your mental health.

**1 Clarity:** This power stone is great for tapping into your inner knowing. When you need your gut and intuition to be strong and clear, use Sodalite to bring your insight to the surface.

- 2 Emotional Balance: Sodalite can range from brilliant to deep blue and helps with the Throat (communication) and Third Eye (insight) chakras that help regulate emotions. When you're feeling emotionally out of balance, do breathing exercises while holding a piece of Sodalite.
- **3 Calm:** The soothing blue and white stone can help you release negativity and is perfect for meditation when you need to chill out or tame overactive thinking. Keep a piece near you while meditating or doing yoga for a little extra calm.
- **4 Focus:** Place a piece of Sodalite near your computer or at your desk when you need to focus on a task or project. Its chemical makeup helps to release tension, which then allows energy to flow where and when you need it most.
- **5 Self-Esteem:** This powerful stone creates a magical energy that creates feelings of self-acceptance and harmony, which can drive confidence and the ability to be your true self. Carry Sodalite in your pocket for regular reminders of your awesomeness.

Sodalite is the perfect stone to turn to when you need that extra boost of mental support. It's my all-time favorite stone for its superpowers! Give it a try and see what Sodalite can do for your mental health too! &

**Kristen Brown** is a bestselling author, keynote speaker, and energy medicine practitioner who charges up her clients by syncing their body/mind/spirit for work and life growth. <u>www.namasync.com</u>

# **ESSENTIAL OILS:** CITRUS FRESH AND CITRUS FRESH VITALITY

BY AMY ZELLMER, EDITOR-IN-CHIEF

# **HEALTHY LIVING**



All oils are not created equal. Young Living is the only brand I personally trust because I know they have complete control over their product from seed to seal. Oils sold at health food stores can be misleading. Since they are not regulated by the FDA, the labels may say they are 100% therapeutic grade oils when they are not. You must look closely at the labels. If the ingredients list anything other than the plant stated, or if the label has statements like "For external use only," "For aromatic use only," and/or "Dilute properly," the oil inside that bottle may have been cut with other oils, synthetics, or chemicals.

# **Citrus Fresh**

What's better than lemon, grapefruit, and orange essential oils? A combination of the three to create the inspiring and unique Citrus Fresh<sup>™</sup> essential oil blend. Along with tangerine, mandarin, and spearmint, Citrus Fresh is a member favorite that's invigorating and bright, with a hint of minty coolness. This product is a perfect replacement for chemical-based home fresheners. Simply add a couple drops to your household diffuser and enjoy the uplifting and refreshing scent.

# **Citrus Fresh Vitality**

Citrus Fresh<sup>™</sup> Vitality<sup>™</sup> essential oil blend perfectly combines member-favorite citrus oils with the refreshingly cool taste of Spearmint to add a striking and unique pop of flavor to culinary dishes. This mix of orange, grapefruit, mandarin, tangerine, lemon, and spearmint essential oils can be used to add zest to chicken, salmon, and gourmet salads. You can also try it on the go: add a drop to your water to motivate you to stay hydrated. Citrus Fresh Vitality can also provide an internal boost with its antioxidants and cleansing properties.

For more information on how to use essential oils, please visit: <u>www.facesoftbi.com/eo</u> &

# OMEGA 3 FATTY ACIDS: AN OVERVIEW

# **HEALTHY LIVING**



### BY SIERRA FAWN GUAY MS, RDN, LDN

mega 3 fatty acids are a type of polyunsaturated fat that support the structure and function of the brain, and are required for survival. The three main types of omega 3 fatty acids are alpha-linolenic acid (ALA), docosahexaenoic acid (DHA), and eicosapentaenoic acid (EPA).

ALA is considered an essential nutrient; it cannot be produced by the body and must be consumed in the diet. Our bodies can use ALA to produce a small amount of DHA and EPA but what is produced is often less than we need for optimal health. Therefore, it is important that we also consume DHA and EPA through our diet.

Research suggests that DHA and EPA have greater benefits to overall health and brain health than ALA. While the exact reasons why DHA and EPA are beneficial are not well understood, it is thought that many of the benefits are related to decreased inflammation. DHA and EPA may help prevent chronic disease (such as heart disease, diabetes, and stroke), prevent against age-related cognitive decline, improve cognition (especially memory, reaction time, and attention), improve mood (including lessening symptoms of anxiety and depression), and alleviate post-concussive symptoms (such as headaches and brain fog).

One principle of good nutrition states that, when possible, it is best to get nutrients from foods instead of supplements. Our bodies tend to prefer nutrients in natural forms and absorb and utilize nutrients from foods more efficiently. The Mediterranean and MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) diets are thought to improve cognition and brain health, and both promote the intake of foods rich in omega 3 fatty acids.

There are several barriers to eating adequate amounts of foods rich in DHA and EPA. The best food sources of DHA and EPA are certain fishes like salmon, mackerel, anchovies, sardines, and herring. Not everyone prefers to eat fish; it can be



expensive and the fish could contain toxins like mercury and polychlorinated biphenyls (PCBs). For people who do not eat several servings of fish per week, taking an omega 3 fatty acid supplement may be beneficial. It is important to talk to your doctor before starting a supplement of any kind. Recommendations for omega 3 fatty acid supplementation generally range from 1 to 3 grams of total DHA plus EPA per day. Sometimes, higher doses will be recommended for people with persistent health problems. Omega 3 fatty acids supplements are best taken with food and in small doses multiple times per day. Omega 3 fatty acid supplements are sold in two main forms: ethyl esters and triglycerides. The ethyl ester form is often less expensive but is not broken down and absorbed by the body as efficiently as the triglyceride form. Additionally, the ethyl ester form is less stable and will have a shorter shelf life. For best results with supplementation, purchase omega 3 fatty acids in their triglyceride form. Always store omega 3 fatty acid according to package directions.

**Sierra Fawn Guay** is a registered dietitian who works with brain injury survivors in Greenville, North Carolina.

# For one meal rich in DHA and EPA, try the recipe below:

# **Easy Salmon**

### Ingredients:

- Salmon, cut into individual serving sizes
- Your favorite spice mix (I used a pre-made blend of red and black pepper, garlic powder, onion powder, paprika, and salt)

### Instructions:

Place salmon, skin side up, in oven-safe cookware. Broil in oven until skin bubbles, about four minutes. Take salmon out of oven and use tines of fork to remove skin. Carefully flip salmon over. Sprinkle a thin layer of spice mix on top. Return salmon to oven. Cook until done and salmon flakes easily with fork, about four minutes. Serve with a side of leafy greens. **Enjoy!** 



# YOGA: Extended

Side Angle Pose

### BY AMY ZELLMER, EDITOR-IN-CHIEF

# **HEALTHY LIVING**

oga is a powerful tool for recovery after brain injury. Contrary to some beliefs, everyone can do yoga — you don't need to be super flexible, have great balance, or even be able to stand up. The beauty of yoga is that every pose can be modified so that anyone can be accommodated.

An important aspect of yoga is your breath. Connecting your breath to your body and flow, and getting oxygen flowing to your brain, is what makes it so powerful for recovery. Yoga is also a time to quiet the mind, to let anxiety and distracting thoughts drift away.

Extended Side Angle Pose (Utthita Parsvakonasana) is a standing pose that increases endurance and stamina. In Sanskrit the word "utthita" means "extended," the word "parsva" means "side," the word "kona" means "angle," and "asana" means "pose."

Some of its many physical benefits include the stretching of legs, knees, hips, and ankles. It also stretches your groin, back, spine, waist, ankles, and shoulders. Energetically this pose balances the root, sacral, and solar plexus chakras. Practicing this pose can help you feel stable, connected, powerful, and help to balance your emotions.



### Instructions:

- **1** Start in Warrior II pose with your right foot forward.
- 2 Reach your right arm toward the top of your mat, extending through the sides of your torso. When you have reached as far as you can, lower your right hand and lift your left hand toward the ceiling, both palms facing the left side of your mat.
- **3** Draw both shoulders away from your ears. Square your shoulders to the left side of your mat.
- 4 Hold for 3-5 breaths, then return to Warrior II and release. Repeat on the other side.

### Adjustments and modifications:

- *Rest your forearm on the top of your front thigh (pictured above).*
- Place a block under your bottom hand to bring the ground closer to you.
- Keep your gaze forward or down to the floor to invite more space in the neck.

If you are interested in learning more about yoga, check out <u>www.loveyourbrain.com</u> and their yoga programs throughout the U.S. at partner studios, which are completely free to brain injury survivors and caregivers.

# **GET YOUR GAME FACE ON!**



SPONSOR SPOTLIGHT

n 2019 I found myself in Australia helping athletes from three nations compete in a large track meet. My daughter was competing in the sprinting events. Our conversations were not about winning or losing; we focused on finding joy in the experience and in doing the best we can. Finding joy in the journey has become a theme for our family and for my patients.

Automobile collisions, concussions, head injuries, strokes, chronic pain, tumors, aneurysms ---the list goes on and on, but one common theme I have seen in over 25 years as a physical therapist is how fast people can go from happy, healthy, vibrant, and strong to depressed, angry, sullen, irritated, listless, and sad.

The study of the human nervous system and how it recovers from injury and illness has fascinated me. I wanted to know why we often saw two individuals come into the clinic with the same injury, the same forces, the same diagnosis, and seemingly the same accident, and yet the healing process was never the same. I would provide the same treatment to both, but one of the individuals may be likely to get better, and the other may not. What made the difference? Was it the way they were treated in therapy? Was it the way they lived at home? What were their relationships with co-workers and family members? Patterns emerged that helped me in practice and designing treatment approaches. I learned to tiptoe around conditions such as fibromyalgia, trigeminal neuralgia, and migraine headaches and accepted the fact that these conditions would likely slow down the healing process, but I did not understand why.

One thing became clear in those "difficult" cases. There was a powerful emotional component involving the nervous system which affected the healing process. It made very little sense to me. Watching my clients after injury, I felt like Spock on "Star Trek" trying to make sense of emotions I did not feel or understand and that did not seem logical. Well, I did what any reasonable person would do, I went back to school to obtain a master's degree in counseling. I hoped to figure out how to help people through the psychology of an injury and help them learn how to recover better.

Here is what I have learned from 26 years of practice and study, hoping to help people recover from illness and injury:

Emotions are electro-chemical equations in the nervous system. You can create happy chemicals by thinking of things that make you happy. Perhaps this could account for some of the benefit many people have gained from watching Bob Ross teach important life philosophies while painting "a happy little cloud." It calms the heart and puts a smile on the face. Those are healing chemicals!

If you look at the world through a negative lens, you will slow down the healing process. When all we can see is the past, thinking about how good life used to be, we find ourselves wallowing in a depressive state.

If you find something to be passionate about, you will speed up the healing process. Live in the present, right here, right now, and you will have fewer of the chemicals of anxiety flowing through your nervous system, elevating your blood pressure, and making it difficult to think.

The balance needed in your nervous system to help you have the best potential to heal is controlled through the parasympathetic nervous system. That is the part of the nervous system dedicated to helping you recover from all of life's challenges. Your parasympathetic nervous system encourages you to sleep, digest, breathe, and keep your heart beating at a healthy pace. If you actively engage the vagus nerve in the healing process, you will improve sleep, decrease inflammation, reduce pain, and generally feel better. How do you improve functioning of the parasympathetic nervous system? Here are a few ideas to keep you living in the present, free from unnecessary depression and anxiety: try yoga, get a massage, learn to breathe properly, hum, meditate, and keep a gratitude journal. A game face should not be an angry or scary face. For best results, try keeping a smile on the inside and out!  $\lambda$ 



Sharik is the CEO of Rezzimax, LLC., and a practicing physical therapist. He suffered his first major TBI at the age of 17, suffering a sports-related hemmorhagic stroke. He later received a degree in physical therapy from the University of Utah and a master's degree in counseling from Utah State University. He is passionate about pain relief and developing tools to improve how the nervous system works. Sharik and his family are involved in humanitarian work to relieve suffering. You can reach Sharik at sharik@rezzimax.com or www.rezzimax.com

# **LEGAL CORNER**

# **TBI** and **Anxiety**



BY JAMES A. HEUER, PA

ost TBI patients do not suffer from anxiety prior to their injury. After a serious injury that affects your brain, you are bound to live in a constant state of fear that it will happen again. This fear can create anxiety in your daily life and activities.

Common symptoms of anxiety disorder may include extreme worry, shortness of breath, racing heartbeat, trouble sleeping, restlessness, and panic attacks, all of which are common symptoms that often coexist with a TBI. Experiencing these issues can make it extremely difficult to move on and attempt to heal.

"Common symptoms of anxiety disorder may include extreme worry, shortness of breath, racing heartbeat, trouble sleeping, restlessness, and panic attacks, all of which are common symptoms that often coexist with a TBI."

Panic disorder causes a terror-like fear, making a person afraid to do daily tasks such as leave their house or use a vehicle. It is usually triggered by overstimulation of the brain. Panic attacks can often mimic a heart attacks with similar symptoms such as tightness in your chest, heart palpitations, and dizziness.

Phobias, which are fears of certain things or situations, sometimes develop after a TBI and may cause a fear of certain places or activities, such as driving or being a passenger in a car, especially if the TBI was caused by an automobile accident. Obsessive compulsive disorder, OCD, is another kind of disorder that causes uncontrolled wants or feelings. An example would be someone who obsessively checks their car's engine or brakes to make sure everything works properly, simply due to the irrational fear that something will fail and cause another accident. But some obsessions and compulsions can also have nothing to do with the TBI but may be more intense than the usual intrusive thoughts and cause major distress.

Post-traumatic stress disorder, or PTSD, is a type of anxiety where a person relives a traumatic event, such as a car accident, and experiences nightmares and flashbacks. About one in four people have a TBI and PTSD. If you experience a TBI and, as a result, suffer from PTSD, it is important to seek treatment immediately because flashbacks only get worse over time. Angry outbursts, insomnia, and emotional numbness from friends and family are other common side effects.

Be alert if any of these anxiety disorders arise in your life after a TBI and know that all of them are treatable through rewiring your thoughts. One successful method of doing this is with talk therapy, which is widely used in treating anxiety disorders. The basic idea is to identify your negative thoughts, what causes them, and train your brain to think differently.

Meditation and mindfulness are more creative and safer techniques being used instead of anti-anxiety prescription medications because pharmaceuticals can be more harmful than helpful to your injured brain. &

James A. Heuer, PA is a personal injury attorney helping individuals with TBI after suffering one himself. He is located in Minneapolis, Minnesota.



# Want to learn more about Amy's journey? Purchase her books on Amazon!

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Fada with RestativitWitWoll-pop



Pop quiz time: What do perseverance and resilience mean to you? Perseverance is about not giving up. It is persistence and tenacity, the effort required to do something and keep doing it till the end, even when encountering resistance or difficulties. Resilience is a person's ability to recover quickly from unfortunate circumstances or illness. That may resonate with traumatic brain injury survivors.

As humans we set goals for ourselves, both short- and long-term. It's easy to become frustrated, angry, or defeated when we don't achieve those goals quickly. Sometimes our goals change, yet the memory of what we desired remains. We may feel thwarted when our success feels incomplete or we fall short of our self-imposed target, causing cracks to appear in our self-confidence and self-esteem, shaking our sense of self-worth. As a TBI survivor, this may lead you to feel anxious and overwhelmed. The path of wellness is never easy and often has many routes. Perseverance and resilience are needed every minute to assist your healing.

# Don't let others define you as a person.

In our social media world, where we are constantly bombarded with the perceived success and perfection of others, you may grouse, "Yes, but I may not be the same again, and I could never be a J.K. Rowling, Tom Hanks, or Serena Williams." News flash: their goals were not attained overnight. Waving the Phoenix wand did not work instantaneously for J. K. Rowling. Her manuscript was rejected twelve times before Bloomsbury picked it up. Now, generations of fans read her books and we are inspired to summon our very own Patronus.

Tom Hanks had some major flops in his career. Yet in one of his most iconic roles, as Forrest Gump, he portrays a character who persevered throughout his life and was resilient enough to recover from life's setbacks. *T.Hanks* for the inspiration, Tom, both on and off-screen. Serena Williams didn't become the tennis G.O.A.T. (greatest of all time) she is by sitting on the couch and eating bon bons all day. She trained hard for years and suffered defeats. Yet she kept at it and outplayed or outlasted others. These three people did not let others define their expectations or limits. They persevered and were resilient in the face of life's obstacles.

# But I want to be "normal" again!

Normal is just a word that means what is usually expected or done. Times change. People change. Circumstances change. Change is a process and it's messy at best. Countries, leaders, and individuals adapt and change to move forward in life leading to a new normal. Perseverance and resilience are needed to do so. As a society, right now we are adapting and moving forward through extremely trying times; our resilience to endure and overcome a pandemic and racial injustice walks handin-hand with our perseverance to achieve a vaccine and equality. You, as a TBI survivor, are overcoming so many hurdles daily. You can define your own "normal."

# Madonna said it best: "Express Yourself"

Allow yourself to express and feel your emotions. Sometimes having a good cry can be emotionally cleansing and put you back on track. Make like Catherine in the television series "The Great" and have a cleansing yell in the privacy of your coach, er, car. Chat with a loved one or someone you trust and tell them how you feel. If you're not up for that yet, no problem. Write a letter to yourself and get it all out. Be kind to yourself, practice compassion for self, and ease up on your great expectations. As they say, Rome was not built in a day. Take some small action, because when you are feeling overwhelmed, doing that one small thing can help you move yourself forward.

# Better start believing in yourself.

Anyone who suffers from TBI already possesses the traits of perseverance and resilience. You have spent days, weeks, months, and years, plugging away at therapies and treatments to improve your health. You continue to reach out to family and friends. As you read this article, your ability to bounce back allows you to be present in this moment. You have put in the effort to overcome so many difficult obstacles in your healing process. Within each one of you lies a fierce and strong warrior who battles each day in battles that many others are not able to face, battles in which others would concede defeat. Take pleasure in every small success on your life journey. Realize that you matter to others. Celebrate yourself.

# Know that right now, right here, you are enough as you are. $\ensuremath{\mathbb{X}}$

Kelly Harrigan is a single mum, veteran, TBI survivor with a girl child and a frenchie, oolong tea in hand and humor on hand, who lives in Annapolis, Maryland.

# **NAVIGATING CHANGES:** Shifts in Relationships After a Traumatic Brain Injury

# DR. JAYDE KENNEDY-BALL, PSYD, LP, CBIS

ollowing a traumatic brain injury, life typically becomes a whirlwind surrounding the medical, physical, cognitive, and emotional implications. We get wrapped up in treatment and attempting to piece together some semblance of normalcy. Often, the impact the injury has on one's relationships gets buried or put in the "We'll get to it later" box, though this can become a source of the most prominent challenges to recovery. This article will focus on providing some insight and direction on how roles may change, identities may shift, and social connections are challenged for those who have been injured and their support systems. Within each of these areas, processes may be more fluid than concrete, as transitioning will be a constant and potentially lifelong journey. It is important to recognize and normalize how taking on new roles, both for the injured person and the support system or caregiver(s), can result in a significant amount of stress that comes with learning new tasks. This process takes a team effort and an abundance of communication. When taking on a new role, or giving one away, take time to learn or teach; things that come naturally to you may differ from others. Taking time to model and teach can serve two key purposes: It can allow you to feel your input is being valued when giving up an aspect of your role, and it will enable the person taking on that role to get the support they may need when learning a new skill. Practice the skills of patience and understanding. While that may seem simplistic, it can be a foundational element in the success of transitioning roles.

Along with this factor, the practice of giving thanks can promote ease in the transition process. As stated earlier, taking on and giving away roles can result in a lot of stress; showing appreciation and awareness of this can provide necessary reassurance. Remember to set aside time to "take

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the hat off." Adjusting to new roles can be exhausting, and it is essential to take a break and make time for respite. Lastly, know and validate your value; change is often laden with negative perceptions. Even when roles or functions within relationships change, it does not mean the overall value has changed.

"Taking time to model and teach can serve two key purposes: It can allow you to feel your input is being valued when giving up an aspect of your role, and it will enable the person taking on that role to get the support they may need when learning a new skill."

A traumatic brain injury can change how you see yourself and others. It is reasonable to experience an entire shift in your own identity. It will be essential to value the process of getting to know yourself, by taking time to explore and reflect on what traits you identified with before the injury and whether or not those traits remain present. There may be new qualities to incorporate based on the injury or how your role changed. It can be difficult to toe the line between reflecting and comparing, as comparing may lead to romanticizing and/or devaluing the current status or level of functioning. One way to promote healthy reflection is to work on establishing the "whole picture." More simply, do not discount the positives that exist within change just because the challenges may be glaringly present—specifically looking for the positives can promote a more rounded and rational picture. Finally, know that perfecting new skills and accepting new traits can take time, just as they did to develop in the first place. Embracing the process of learning can support a healthier outlook and outcome.

Awareness of how emotional changes can affect the sense of connection can promote overall adjustment. Emotional connections are known and understood to change naturally throughout our lives, but navigating them when they are sudden and unexpected can result in a lot of irrational guilt and blame for the outcomes. Going through the process of recovery can change relationships for a multitude of reasons. Just as the previous step touched on getting to know yourself again, you may also have to get to know each other again. Your connection may look different from before and may require some extra attention to reestablish. Understanding and accepting this will take time. Allow for feasible expectations, and necessary wiggle room.

This last piece will be imperative to all aspects of navigating change: communication. Again, it may seem like a simple element but it can serve to devastate or uphold success with adjustment and transition.

# Key points within the goal of effective communication:

- First, listen for emotions. Emotions serve as a telling aspect of what one is attempting to communicate and can allow for empathy and understanding when we may not necessarily connect to what the other is verbally saying.
- Next, identify what you do agree on versus all the things you do not, as this can provide more stability in addressing disagreements.
- Differentiate between being assertive and confrontational; being assertive can allow for respectful and successful advocacy for your needs.
- Finally, make time for feedback—both giving and receiving! Whether or not we are asking for feedback often has a direct correlation with our level of receptiveness. Developing a system where feedback is expected and planned can have a significant impact on the success of how we communicate.

The factors discussed in this article serve as only the tip of the iceberg for how relationships can change following an injury and how to navigate those changes. However, they are a good start for developing a strong foundation to weather this storm. These changes take time to process and involve many victories and defeats. Let your counterpart know that you have the same goal, even if your steps to achieve them look different.  $\hat{X}$ 

**Dr. Jayde Kennedy-Ball, PsyD, LP, CBIS,** *is a clinical psychologist at Origami Brain Injury Rehabilitation* Center. Origami is a CARF (Commission on Accreditation of Rehabilitation Facilities) accredited 501(c)(3) nonprofit organization. Origami provides comprehensive rehabilitation for adolescents and adults with neurological dysfunction through their residential, outpatient, and community-based programs. With their compassionate and innovative services, Origami creates opportunities and transforms lives. Learn more at OrigamiRehab.org.



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# Life Lessons Learned from a TBI

### **BY AMY ZELLMER, EDITOR-IN-CHIEF**

few years before my brain injury, I rescued a sweet little Yorkie from the local Humane Society. She had come in over the weekend and was underweight, scruffy, and scared. On the phone they warned me that she was mean and would try to bite anyone who held her. When they brought her to my house for an in-home visit, she came right up to me. I picked her up, and she proceeded to lick my entire face.

# It was love at first sight ... I named her Pixxie.

After my fall that caused my brain injury, I was worried that Pixxie was going to have a potty accident in bed because I was sleeping 12-14 hours, but not once did she have an accident or bother me to get up. She knew I was hurting and she comforted me. In some ways I think she rescued me. She was my reason to get up every morning, she kept me in a routine.

Pixxie traveled the country with me. We visited 42 states plus Canada in her eight years with me. She became the face of my advocacy — I mean, who doesn't love a cute dog with her tongue sticking out! If you've ever met me in person, there's a good chance you got a puppy kiss from Pixxie!

In May I noticed several large lumps pop up out of nowhere on Pixxie's belly. A biopsy revealed an aggressive form of cancer, and within a month the tumors had more than doubled in size. By July more tumors started impeding her ability to walk and lay down. I realized I didn't have much time left with her and, as much as it broke my heart, I knew what needed to be done to give her the most comfort. She was her spunky little self right up until the end.

The moral of the story: it's ok to feel all the feels and allow ourselves the time we need to process whatever news we are given. The loss of my fur baby is hard to process. I've had to allow myself to feel a range of emotions from anger to sadness to fear. Change and grief is hard for anyone, but after a brain injury it can be incredibly difficult. It's OK to take all the time you need, and it's OK to ask for help. &



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