

THE BRAIN HEALTH MAGAZINE

WHEN
LONG COVID FATIGUE
MET YOGA

7 Types of
Neurofatigue

How Much Does
FATIGUE
Cost You?

THE
FATIGUE
ISSUE

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Summertime — a double-edged sword for brain injury survivors. As we welcome summer, we also welcome higher temperatures and humidity — which can wreak havoc on our brain injuries, causing fatigue and other symptoms to flare.

I found that I need to really watch my water intake and remember to stay hydrated. As soon as I forget to drink enough water, I begin to notice a headache creeping in. If I pay attention to my body's signals, I will catch the headache early and drink extra water. Other times, I don't pay close enough attention and will go into a full-on headache that could take me out for a day or two.

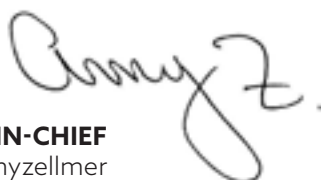
While headaches are probably my least favorite symptom to deal with, I would give fatigue a close second. Fatigue can be debilitating and interfere with work and personal life.

It's hard for someone who doesn't have a brain injury (or other similar illness or injury) to understand what brain fatigue feels like. I have heard too many times "oh I get tired quickly too," or "I need to take naps most days too." It's frustrating to hear these comments. I know they mean well and try to be empathetic, but they truly *don't* understand.

Now add in the heat and humidity, and my fatigue comes on even quicker, especially if I am outdoors. In the height of summer I find myself not leaving the house for days at a time due to the temperature and humidity index.

As I said, it can be hard for others to understand, which adds to our frustration. But it's important to remember we hold the power inside of us to not let our injury get us down. No one else can do that for us.

As you read through the pages of this issue, I hope you feel a sense of belonging, knowing you are not alone in your journey. While it can be frustrating and feel helpless, it is important to know there *are* doctors and professionals who understand how to help you. 🧡



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7 TYPES OF FATIGUE

You Should Be Aware Of: ***The Definition Guide***



BY DR. TATIANA HABANOVA



"I am so tired even my tiredness is tired"

Fatigue is a universal feeling we all experience at one time or another: from trying to stay mentally alert on Zoom meetings, to that feeling we get after completing an exercise routine, to not feeling refreshed due to a sleepless night. In fact, the Merriam-Webster thesaurus has a long list of synonyms for the word fatigue, so clearly people have tried describing this feeling of tiredness, exhaustion, or lack of motivation for some time.

Fatigue is actually a symptom, not a condition, with just as many causes as synonyms. Many health care providers believe fatigue is just a combination of lifestyle, social, psychological, and general wellbeing issues rather than an underlying medical condition. Even though fatigue is a normal phenomenon usually resolved with a nap or a few nights of good sleep, for brain injury survivors, fatigue can be debilitating. It becomes a barrier to doing day to day activities, negatively impacting relationships and the ability to work.

Fatigue can be categorized into seven different types:

Physical Fatigue

Physical fatigue comes from muscle weakness and diminished cardiovascular stamina, usually occurring after strenuous or extended physical activity. Typically, physical fatigue gets worse in the evening or after a busy day, and improves after a good night's sleep. Physical fatigue sounds like: "I'm tired and I need to rest. I'm dragging today."

Psychological Fatigue

Psychological fatigue comes with depression, anxiety, and other psychological conditions. This type of fatigue gets worse with stress. Many times, sleep does not help and for many it gets worse in the morning. Psychological fatigue sounds like: "I just can't get motivated to do anything. I just don't feel like doing anything."

Cognitive Fatigue

Cognitive fatigue, also called mental fatigue or neuro fatigue, occurs while performing cognitive tasks such as concentration, information processing, and recall. This type of fatigue is common after a traumatic brain injury where the brain is devoting a large amount of its energy reserves to healing itself. With less energy available for thinking and concentrating during this healing time, the brain is less efficient in sending electrical signals, compounding the effects of cognitive fatigue. Researchers found that the severity of fatigue seems to have no relation to the severity of trauma, time since injury, or the area of the brain primarily affected.

This type of fatigue can arise quickly, and when it does, it makes it very difficult for the person to continue with ongoing activities. It also takes a disproportionately longer time to recover. Cognitive fatigue sounds like: “After a while, I just can’t concentrate anymore. It’s hard to stay focused. My mind goes blank.”

Sensory Fatigue

Sensory fatigue comes with irritability, restlessness, or anxiety, usually occurring with sensory overload. This happens when input from your five senses outweighs what the brain can sort through and process. This type of fatigue is seen with various neurological conditions and is also a common sequela that occurs in mild traumatic brain injury survivors when concussion symptoms last beyond the expected recovery period after the initial injury. Multiple conversations going on in one room, flashing overhead lights, or a loud party can all produce the symptoms of sensory overload. Sensory fatigue sounds like: “I need to get out of here. I feel tense. I want to leave now.”

Social Fatigue

Social fatigue, also called social burnout or post-socializing fatigue, happens when you don’t get enough alone time and have socialized to the point that you can’t do it anymore. This type of fatigue tends to affect introverts and brain injury survivors to a greater degree as they tend to invest a lot of energy trying to navigate socially demanding environments, leading to social exhaustion. Social fatigue sounds like: “I feel like I hit a wall. I’m running on empty. I don’t feel like going.”

Compassion Fatigue

Compassion fatigue comes with withdrawal, feelings of helplessness, and lack of self-satisfaction leading to a diminished ability to empathize or feel compassion for others. Commonly seen with health care professionals working directly with victims of disasters, trauma, or illness, it’s also seen with family members and caregivers of a loved one with a chronic illness. Compassion fatigue sounds like: “I feel sad. Nothing I do helps. I don’t enjoy my favorite activities anymore.”


Chronic Illness Fatigue

Chronic illness fatigue, also called post-exertional malaise (PEM), is a complicated disorder characterized by extreme fatigue lasting for at least six months that can’t be fully explained by an underlying medical condition. The type of fatigue worsens with physical or mental activity, but doesn’t improve with rest. It is a serious long term illness causing dizziness upon standing and affecting many body systems, sleep, and memory. Chronic illness fatigue sounds like: “I feel unrefreshed when I wake up. I get really tired with any exercise. My muscles and joints are in constant pain.”

“As an invisible symptom, people often don’t understand the sheer scale of what someone with fatigue goes through. Careful communications can help provide the understanding needed to help family, friends and coworkers comprehend the lack of energy needed to complete tasks, go to social events, or provide care for a loved one.”

Each fatigue type has specific strategies and tools available to help cope with the symptoms and lessen the degree that it interrupts daily function and mental health.

The challenge many face with one or more fatigue types is being mistaken as lazy, unwilling to participate, or apathetic. It can be very difficult for family, friends, or coworkers to understand the limitations caused by different types of fatigue, and often place an expectation on the individual to quickly become “normal” again. Realistically, recovery time can be prolonged and extended.

Attempting to describe fatigue to someone who never experienced it before can be a thankless task. As an invisible symptom, people often don’t understand the sheer scale of what someone with fatigue goes through. Careful communications can help provide the understanding needed to help family, friends and coworkers comprehend the lack of energy needed to complete tasks, go to social events, or provide care for a loved one. This lack of energy does not equate to lacking desire to complete those tasks, attend an event, or continue to be the caregiver. 

Dr. Habanova is the host of Brain Health Savvy, a weekly podcast that inspires listeners through real conversations on all things pertaining to women’s brain health. She transforms women in simple, yet real ways. Her sass, wit, and straight-from-the-hip style on women’s brain health and empowerment encourages women to seek their true potential, to be fierce and unapologetic while leading from authenticity, and to embrace change as they buck societal norms in favor of better brain health. www.drhabanova.com



Persistent Neurofatigue, Most Common After TBI

*Science Finds Ways to Open
'Closed Eyelids Blocking Out Life'*



BY DEBORAH ZELINSKY, O.D.
Executive Research Director Mind-Eye Institute

"I'm tired and I want to go to bed."

That second line of the 1925 song *Show Me the Way to Go Home* characterizes what we all recognize as normal fatigue, but fails to depict the kind of debilitating fatigue following traumatic brain injury (TBI) — a fatigue normal rest cannot abate. It is more akin to the fatigue that finds definition in poet and author Sandra Poindexter's description: "concrete block feet, anvil arms ... [and] eyelids closed like window shades blocking out life."

Often referred to as neurofatigue, the intense tiredness of the injured brain may affect a person cognitively, physically, and emotionally:

- **Cognitively** because the disrupted brain works harder and expends more energy to complete even the simplest mental tasks.
- **Physically** (or, in more medical terms, pathologically), because patients experience a weariness when just doing easy, everyday chores like washing clothes, grocery shopping, or cleaning dishes.
- **Emotionally** because persistent fatigue can lead to irritability, mood disorders, and a general failure to cope with the relatively minor interruptions and setbacks occurring in one's day-to-day life.

Indeed, neurofatigue is a symptom TBI patients often report as present and problematic for months — even years — after a brain injury occurs.

Writing in an issue of *Neuropsychological Rehabilitation*, scientists indicate that fewer than half the patients who they interviewed at two years post-trauma head injury, and again at five years after the injury, reported any resolution of their fatigue. The same investigators indicated lingering brain fatigue is "associated with [mental and physical] disability, sleep disturbance, and depression."

Other researchers concur. In a 2021 article published in *Scientific Reports*, authors write that fatigue seems to be the most common symptom of brain injury, being subjectively reported by as many as 80 percent of patients after TBI and by a quarter to three-quarters of patients who suffered a stroke. They suggest an inability to endure or tolerate the everyday mental demands of "planning, organizing, and keeping track" may be why brain-injured patients, such as those in the study, tend to "underperform in cognitive functions of processing speed and working memory aspects ... and ... report lower [on average] executive functioning."

A study of special interest in which scientists conducted MRI scans of injured brains reported finding an increased blood flow to areas not normally used for certain "challenging mental tasks." The authors say the abnormal blood flow indicates less efficient mental processing; the injured brain has to work harder. The journal *Neurology* published the study.

The Headway brain injury association, in its booklet on managing fatigue after injury, says studies associate the condition of fatigue with a dysfunction of the brain's ascending reticular activating system (ARAS). The ARAS

connects the brainstem to key neurological structures like the thalamus, hypothalamus, and cerebral cortex, and “influences the amount of information that the thalamus relays to conscious awareness.” In other words, it wakes up the thinking brain.

But it is not only the ARAS necessarily affected when a TBI occurs. Head injury, stroke, and other neurological disorders often interrupt the normal synchronization of sensory systems — such as eyes and ears — and their interaction between the optic nerve and the same brain structures with which the ARAS communicates.

“[N]eurofatigue is a symptom TBI patients often report as present and problematic for months — even years — after a brain injury occurs.”

Practitioners at the Mind-Eye Institute have long been aware that the retina serves as a critical component of the central nervous system. It acts as a primary portal for information to the brain. Environmental information in the form of light passes through the retina and converts into electrical signals, which then propagate through neurons in the optic nerve to interact with various brain structures. Retinal signals affect not just the visual cortex but other significant regions of the brain as well, like the cerebellum, midbrain, thalamus, hypothalamus, and brainstem.

The implication here is any changes a head injury might cause to retinal processing, particularly peripheral retinal processing, will likely impact basic physical, physiological, and even psychological processes regulated by the brain. These basic processes affect motor control, posture, emotion, conscious decision-making, memory, and alertness, among other brain circuits.

“This fatigue — sometimes referred to as brain fog — may then lead to mental disorders like anxiety, depression, sleep-related disturbances, and post-traumatic stress disorder (PTSD) — all of them, in turn, exacerbating the fatigue in a seemingly never-ending cycle.”


The peripheral retina sends signals further into the brain (beneath a conscious level). Those signals contain both image-forming and non-image-forming data, originating from what one sees “out of the corner of the eye,” as well as from the space around whatever target on which one is focused. Image-forming signals from the periphery provide eyesight awareness. Non-image-forming signals link directly to different brain processing and affect body systems running automatically in the background, such as posture, metabolism, mood, and stress levels.

When peripheral eyesight functions improperly, it contributes to post-traumatic brain fatigue. This fatigue — sometimes referred to as brain fog — may then lead to mental disorders like anxiety, depression, sleep-related disturbances, and post-traumatic stress disorder (PTSD) — all of them, in turn, exacerbating the fatigue in a seemingly never-ending cycle. Basically, the brain uses high-energy circuits to accomplish what should be automatic and low energy.

The Mind-Eye Institute gained worldwide attention for groundbreaking investigative and clinical work involving retinal processing. Indeed, expanding knowledge about the retina and application of 21st century optometric science enabled the Institute to achieve well documented, clinical successes in using specialized, therapeutic eyeglasses to directly alter brain activity and diminish fatigue, brain fog, concentration, memory difficulties, headaches, and other symptoms of traumatic brain injury, concussion, and stroke. These “brain” glasses have also proven effective in building undeveloped processing skills in children and adults with learning deficiencies, including those “on the spectrum,” namely autism and attention deficit hyperactivity disorder (ADHD).

“[The Mind-Eye Institute has achieved] well documented, clinical successes in using specialized, therapeutic eyeglasses to directly alter brain activity and diminish fatigue, brain fog, concentration, memory difficulties, headaches, and other symptoms of traumatic brain injury, concussion, and stroke.”

By varying the amount, intensity, and angle of light passing through the retina, brain glasses help restore synchronization to patients’ disrupted sensory systems; alter their awareness, attention to, and understanding of what happens around them; restore visual processing skills; and bring a return of comfort and relief.

Remember, in today’s world of advanced science, help is available. TBI patients can find ways to manage fatigue, reconnect, and return quality to their lives. As former U.S. President Theodore Roosevelt once said, “Believe you can and you’re halfway there.” 

Deborah Zelinsky, O.D., is a Chicago optometrist who founded the Mind-Eye Connection, now known as the Mind-Eye Institute. She is a clinician and brain researcher with a mission of building better brains by changing the concept of eye examinations into brain evaluations. For the past three decades, her research has been dedicated to interactions between the eyes and ears, bringing 21st-century research into optometry, thus bridging the gap between neuroscience and eye care.

EXPLORING CAREGIVER FATIGUE



BY ANNE ADKINSON



The term “caregiver” in the brain injury community can be complex and varied. Unpaid family and friend caregivers can be a key to recovery and living well for survivors of head injury. However, calling yourself a “caregiver” when referring to care provided for someone we love who was independent before an accident, illness, or injury, can sometimes make the situation we are in all too real. It can be hard to admit those we love need our help to stay safe and healthy after a brain injury. Since life doesn’t stop when a brain injury occurs, survivors of brain injury often find themselves returning to caregiver duties for children or grandparents and acquiring new caregiving duties as parents and spouses age. For this issue’s theme of “fatigue,” Anne Adkinson explores her first experience as a caregiver and the valuable lessons she learned. Anne is currently a caregiver for her husband, a combat veteran who sustained a brain injury.

I first experienced being a caregiver when I gave birth to my son. After several miscarriages, 16 weeks of strict bedrest, 22 hours of labor, and an emergency c-section, I was handed the most beautiful boy I had ever seen. I remember being surprised he looked just like my mom. I couldn’t wait to take him home and begin our lives together. However, within the first few days of his life he ended up back in the hospital because his tiny organs began shutting down. It was terrifying. I begged, pleaded, and prayed to everything in the universe that he would recover.

My sister-in-law, who gave birth a few months prior, came to visit us in the hospital. After days of trying to keep a brave face, I completely fell apart, assuming she’d be a soft place to land. I sobbed as I shared my fears of losing my child, my guilt for his suffering, and the gut-wrenching feelings of helplessness and hopelessness. She listened quietly as I poured out my soul then offered what I hope she thought was support: “This should be the happiest time of your entire life. You should be more grateful for this opportunity.” It was a stunning, cutting response. I needed to vent my pent-up emotions and sought validation for the fear and anxiety I experienced while also recovering from major surgery myself. Instead, I met my first experience of being shamed as a mother.

CAREGIVER FATIGUE

That evening my mom came to visit us in the hospital. Misty eyed, I kept my feelings to myself after my earlier experience. She watched me for a while, then kindly took the baby from me and without an ounce of judgment said, “Being a new mom is hard, especially in the beginning. It’s amazing what sleep can do.” With that she sent me home with strict instructions to eat, shower, and sleep while she stayed with the baby in the hospital.

It was the best sleep of my life. My mom was right, it IS amazing what sleep can do. That one act of kindness free of judgment changed my entire outlook and enabled me to be the strong, brave mother I needed to be for my child. This was the first of countless experiences with my mom guiding me along my motherhood journey. My son ended up making a full recovery, now healthy, happy, and thriving as he heads into his senior year of high school.

Being older and wiser, I look back on that experience and realize several things. First, it’s not fair to ask someone to have skills they don’t possess or allow my feelings to get hurt when someone isn’t capable of showing up in a way I need. I already knew my sister-in-law to be critical, and I shouldn’t have expected her to be different.

Second, my mom was the perfect example of how we can help others in distress. The key is offering kindness free of judgment. If my mom hadn’t recognized the signs of caregiver fatigue and intervened, my distressful moment could very easily have turned into a crisis.


Third, it truly is amazing what sleep can do. By neglecting my own needs and ignoring the warning signs of fatigue I allowed my physical, emotional, and mental exhaustion to reach a boiling point, and I could no longer function properly.

Fourth, let’s all agree to stop shaming each other. It only makes things worse, perpetuates negative stigmas surrounding mental health, and prevents people from getting the help they need until their situation spirals out of control.

Warning signs and symptoms of caregiver fatigue:

- *Feeling depressed or anxious*
- *Mental and/or physical exhaustion*
- *Struggling to think clearly*
- *Irritability and mood swings*
- *Neglecting one’s own health and wellbeing*
- *Disrupted sleep*

What to do if you experience caregiver fatigue:

- *Ask for help! Confide in a trusted friend, relative, clergy, counselor, or doctor. If they can’t help you, ask someone else until you find someone who can.*
- *Take steps to address wellbeing like sleep, mindfulness, exercise, and nutrition.*
- *Seek professional help.*
- *Stop feeling guilty for having these feelings! It’s a normal part of being a caregiver. *

Anne Adkinson is a Women’s Brain Health Navigator for Veterans and Military Families. She resides in sunny Arizona where she is a mom, a proud military spouse and caregiver to her husband who is a combat veteran. She is also the mom of a US Marine.

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WHEN LONG COVID FATIGUE MET YOGA



BY ED ROTH

Nikki Matthews is exhausted, but you'd never know it. A little over two years ago, the 47-year-old executive recruiter just finished visiting family and friends in the Poconos, heading to Florida. When she boarded the plane in Philadelphia, she felt fine, but by the time she landed in Orlando, she felt like she had been hit by a truck.

She spent the next three weeks completely bed-ridden with a fever and unable to breathe. "It was hellish," said Nikki.

It wasn't until February 2020 that she deduced she had COVID. Testing positive for antibodies confirmed her suspicion. It was early in the pandemic and the world was unfamiliar with all the effects of the virus.

Normally an extremely healthy person, Nikki felt different as she couldn't bounce back quickly. She still lacked energy after many of the symptoms subsided. "I would normally walk or hike 7 to 8 miles on a Saturday, but I could barely even walk. I felt like a 90-year-old woman."

Convinced she got it again in February and December of 2021, the Pennsylvania native was down and out, with her respiratory system working overtime. People would tell her she was young, healthy, and in great shape, so something else could be the culprit. "All of this started after my mother died in May 2019, and many close to me assumed much of this was emotional, but this felt very different."

"[Nikki] still lacked energy after many of the symptoms subsided. 'I would normally walk or hike 7 to 8 miles on a Saturday, but I could barely even walk. I felt like a 90-year-old woman.'"

As her maladies developed, so did the medical community's understanding of people with Long COVID (aka long-haulers), when symptoms persist for more than four weeks. A nurse practitioner suggested a bacterial infection brought on by COVID related to her breathing trouble, leading to double pneumonia. At this point Nikki realized she needed to go inside herself to diminish her fatigue. That's when she rediscovered yoga.

Nikki grew up on the East Coast with a very happy childhood, spending much of her time in nature, boating and camping. Even before pursuing her B.A. in Communications from Kutztown University, she got involved with the practice/philosophy for inner peace and balance that would last throughout her life.



She joined one of the largest yoga communities in the country and began to understand the fundamental underpinnings of her attention deficit disorder (ADD). By 18, she taught yoga, fitness kickboxing, and Pilates. Within a few years, she became National Sales Manager for the Himalayan Institute, earning a status of 200-hour specialist.

In 2006, her father died, and she migrated to Arizona. "It was time for a new way of life and thinking, especially about loss and grief," she says. "This is when I developed a deeper appreciation of the mental aspects of yoga."

Nikki explains, "Most people associate yoga with physical activities that incorporate different poses. That's Asana. However, Shiv Asana helps me maintain balance, meditation, and relaxation with my physical side." Yoga became a daily ritual as she learned to take control of her own health. "I was always into holistic medicine and consider it the backbone of my healing."

After her third bout of COVID, Nikki still struggled to regain energy. Her adrenals felt drained, and brain fog left her unable to think clearly. "I would do things that

Continued ...

... continued from previous page.

weren't me, like put laundry detergent in the refrigerator. I wasn't present; it was like my brain wasn't firing correctly," said Nikki. "Coping with the loss of both of my parents definitely led to depression and stress, but this was like chatter in my brain — I call it the monkey mind."

To combat the scattered sensation, she forced herself to be more deliberate, slow down, and think more. "I learned to say things out loud as a way of reinforcing my memory, things like 'here are my sunglasses, here are my keys.' I developed routines around just about everything."

"It's hard to see some Long-COVID survivors with cognitive challenges have difficulties just like those with brain injuries have had for years in navigating healthcare and community-based programs and systems."



Carrie Collins-Fadell, CEO of the Brain Injury Alliance of Arizona, says it's a reality that life does not bounce back to normal for some people with COVID, especially the earlier variants and COVID pneumonia. Carrie herself experienced a loss of smell after a bout with a respiratory illness in March of 2020 that she believes could have been COVID. "It's hard to see some Long-COVID survivors with cognitive challenges have difficulties just like those with

brain injuries have had for years in navigating healthcare and community-based programs and systems," said Carrie. "We really need to band together and address the systemic system failures for everyone with long or short-term cognitive impairment, regardless of the cause."


"‘The physical is only one part,’ said Nikki. ‘I actually made meditation and relaxation my number one priority, since I could no longer push to boost my energy. This helps reduce my angst, wondering if this is my new normal and ‘will I always be sick?’"

As for Nikki, she continues to practice Asana and Shiv Asana to maintain balance and battle the fatigue and changes in the brain that dog her. "The physical is only one part," said Nikki. "I actually made meditation and relaxation my number one priority, since I could no longer push to boost my energy. This helps reduce my angst, wondering if this is my new normal and 'will I always be sick?'"

"You know your body better than anybody else," she adds. "The more you're in touch with your mind and body, the better you can heal yourself. You should also explore holistic practitioners for a 'whole person' approach, then make your own decisions."

Support is key for long-haulers and can come from many sources. In addition to online and in-person support groups, family and work should be welcome places to turn. Nikki is particularly grateful to her employer Govig and Associates for making accommodations as she heals.

"You know your body better than anybody else,' she adds. 'The more you're in touch with your mind and body, the better you can heal yourself. You should also explore holistic practitioners for a 'whole person' approach, then make your own decisions."

Finally, she wants people to know that the fatigue is real and can't just be wished away. A few months ago, she began to include Vinyasa Yoga into her routine three times a week. Often confused with "power yoga," this continually changing series of poses is based on the philosophy that all is temporary as we move from one position to another, then leave: A perfect metaphor for how life unfolds and how we bring consciousness to each moment. 

| Ed Roth is a producer, editor, and writer who lives in Scottsdale, Arizona.



Is Fatigue Endangering Our Teenagers?

BY AANIKA PARIKH



Public speakers, environmental activists, multi-sport athletes: there is very little our youth are not capable of pursuing. After all, most teenagers are free from responsibilities such as paying bills and providing for a family, allowing them to put their youthful determination and energy into action. In fact, UNICEF identifies teenagers as the “driving force of society.” However, the chronic academic fatigue experienced by new generations of teenagers corrupts this youthful optimism and fearlessness, eating away at the very foundation of our society. According to the Yale Center for Emotional Intelligence and the Yale Child Study Center, students most frequently report negative emotions including tiredness and stress, and claim they are “not energized or enthusiastic” at school. What causes this fatigue and burnout in what is supposed to be our most active population?

As rates of mental health issues increase in students, researchers desperately look for a root cause. In 2014, a teacher and family therapist attributed the suicides of three high school students in Newton, Massachusetts to a “culture of over-achievement” (WBUR). The increasing pressure on students to spend every waking hour perfecting their GPA and working on extracurricular activities for the sole purpose of gaining admission into a prestigious college proves to be detrimental to students’ health. Moreover, the National Foundation of Sleep determined that students received less than the recommended amount of sleep, leading to mental health issues such as anxiety and depression. Considering our brains fully develop at the age of 25, the mental consequences plaguing these young minds are especially disheartening. New York University researcher and professor Maria Gwadz expresses, “It’s not developmentally appropriate for them to work so hard.”

With many students’ self-esteem and social status reliant upon their admission into top-tier colleges, including Ivy League universities, their physical and mental health often pushes to the back burner. High school student Ellie claims

she “internalized that if she didn’t go to college, she was a failure” (CPR News). The pressure for college admissions increasing and acceptance rates decreasing puts the health and motivation of our students at serious risk. Balancing social and emotional development with academic pressure, fatigued teenagers face low levels of motivation, alertness, and cognitive ability (Evolve Treatment Center).

“The increasing pressure on students to spend every waking hour perfecting their GPA and working on extracurricular activities for the sole purpose of gaining admission into a prestigious college proves to be detrimental to students’ health.”

Although it is our educational system’s responsibility to prepare our students for higher education and life after secondary school, the declining mental and physical state of our youth serves as a wake-up call for us to prioritize our teens’ health over their academic achievement. In my home state of Illinois, progress can be seen with the implementation of a law allowing students to take five mental health days and connecting students in need to school social workers. Moreover, my school set aside school days for community-building and social-emotional-learning. These institutional changes, however, must be supplemented with a cultural shift in our glamorization of overachievement and academic status. 🧡

Aanika Parikh is a junior in high school who is very passionate about health care and the medical sciences. She is also interested in combating public health inequities and plans to pursue a career as a medical doctor in the future. As an avid writer, Aanika uses her skills to advocate for health-related improvements.



Fatigue and TBI



LEGAL CORNER

BY JAMES HEUER, PA

One of the most common symptoms individuals experience after a traumatic brain injury is fatigue. Types of fatigue include and are not limited to: cognitive, mental, physical, and psychological. Reportedly, 70% of individuals with a TBI suffer from fatigue, expressing it as their most debilitating symptom post injury. Fatigue affects every aspect of daily life. It negatively impacts your ability to do work or complete leisurely tasks. It even interferes with their ability to drive a car, putting TBI victims in more danger.


The general population will normally feel fatigued after a long day at work or after a lengthy hike. With a TBI sufferer, fatigue occurs more quickly and more often, setting them apart from the normal day to day functions. Physical fatigue, which refers to weakness in muscles, means the body needs to work twice as hard to do normal everyday activities. Over time, the TBI patient usually regains their strength, and requires less rest. Being physically active can actually help this type of fatigue along with sleep as doctors recommend.

Mental fatigue refers to the extra effort and brain power used. Tasks require more mental strength and power to work harder. Concentration becomes more difficult resulting in a tired mind. This makes it harder to focus or concentrate.

Psychological fatigue refers to the state of depression and anxiety. Stress makes it worse; sleep does little to help. This type of fatigue makes the individual feel depressed, and creates little desire to do anything.

Lastly, cognitive fatigue makes it difficult to concentrate. Individuals post-traumatic brain injury experience these types of fatigue, all of which can pose a great risk of affecting an individual's life. When one is tired, it is not easy to want to participate in social activities, exercise, or to take care of oneself. Setting a sleep schedule and exercising daily can improve fatigue. Reducing over-scheduling, limiting visitors if it tires you out, and prioritizing activities can help too.

"With a TBI sufferer, fatigue occurs more quickly and more often, setting them apart from the normal day to day functions."

The most effective thing you can do to rehabilitate yourself and decrease fatigue is exercise. Exercise increases energy and endorphins. Endorphins, hormones triggering a positive response in the body, can help relieve the brain and body of stress and pain. In addition, increased oxygen levels improve the brain's function. You may feel too fatigued to exercise, which is why it is important to ease into a workout regime. Start with a short walk and gradually intensify activity. 

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

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FATIGUE

and *Traumatic Brain Injury*



BY DR. JOANNE SILVER JONES ED. D, MSW

Fatigue. My nemesis. My constant companion. The reminder that my brain is injured, some parts irreparably. Fatigue wakes up with me and follows me to sleep. It's so hard to explain how after 8 hours of sleep, a CPAP machine, medication, and meditation, I can wake up tired.

A 2015 study published in The Journal of Head Trauma Rehabilitation, begins, "*Fatigue is one of the most frequent sequelae of traumatic brain injury (TBI), although its causes are poorly understood.*" (Bushnik, Tamara, Caplan, Bogner, et al, July 1, 2015) This study investigated the interrelationships between "Fatigue and sleepiness, vigilance, performance, depression and anxiety." The findings supported their hypothesis that: "*Fatigue after TBI is a cause, not a consequence, of anxiety, depression, and daytime sleepiness, which, in turn (especially depression), may exacerbate fatigue by affecting cognitive functioning.*" The researchers recommend addressing anxiety, depression, and vigilance to alleviate fatigue.

After living with TBI for almost 14 years, I find these results interesting, but not novel. The recommendations from the study add to my sense that living with traumatic brain injury is like living on a Mobius strip: hard to get oriented and balanced, or see a clear path forward. Fatigue leads to anxiety, vigilance, and depression. In order to deal with fatigue, it's necessary to address the ways in which anxiety, vigilance, and depression appear in one's life. One causes the other, and dealing with fatigue requires addressing the consequences of fatigue.

How fatigue shows up in daily life

I too often wake up tired. I check my CPAP machine to see how many hours I was attached to it, believing the number will give me an indication of how rested I'll be. It doesn't, but I keep looking. I take my medication: one for helping me with sleepiness, and others I know contribute to my fatigue, but are necessary for pain, seizures, and depression.

The feeling when I wake up is like having a heavily weighted blanket over my entire body and a weighted eye covering. It's hard to move. Sometimes I fall back asleep. I tell myself to get up, make coffee, go for a walk, or practice yoga and meditation. The blanket slowly eases up and then I get up. I don't bound up, although I wish I did.

I have lists of things to get done every day, from the mundane get-prescriptions-at-the-pharmacy, to the engaging and creative, like working on the novel I'm writing. My lists are long and many items reappear day to day. If I don't see something written down, I'm likely to forget to do it, and the fact of forgetting itself causes anxiety, adding to my fatigue.

Some days I go grocery shopping. Of course, I have a list, but when I get into the store, all of the items and aisles and people and signs about "mask, don't mask" can overwhelm me. I often forget to look at my list until I'm ready to leave and then have to find the energy to go back through the store and get what I came for. I find myself buying what appeals at the moment. I take time to look at the shelves, causing other shoppers to grimace as I interfere with the speed of their shopping carts. By the time I check out, my tinnitus is louder and my attention is fragmented because I'm overwhelmed by the anxiety of navigating the shopping aisles and embarrassment that this ordinary chore became so harrowing. By the time I get home, I am really tired and typically take a nap.

Some days I meet friends for a hike or for lunch. Since seating at restaurants in the Covid era is mostly outside, I don't have to deal with overhead lights and piped in loud music. Although, the cadence, tone, or style of how some people talk can be taxing. There are those who talk without taking a breath, or offer a long explanation of something unfamiliar to me, so I have to concentrate to follow the thread of the conversation. Conversations can exhaust me, and I feel the weighted blanket begin to enfold me. All I want to do is go home and take a nap.

Forming a relationship with fatigue

I spent a significant part of the past 14 years fighting and arguing with fatigue.

“You won’t interfere with my life, fatigue!”

“I’m sorry I’m so tired. Please go away. Don’t remind me of my injuries and how I got them.”

As with so much in life, solutions aren’t found in denial or hostility, but in some form of acceptance and accommodation. Addressing fatigue remains the hardest, daily, ever-present symptom of my Traumatic Brain Injury.

I have, though, learned to acknowledge the reality that fatigue IS the legacy of TBI

As I’m able to come to terms with fatigue as part of the Mobius strip housing my life, the more I can lessen my anxiety and vigilance. Fighting a truth takes so much energy, and I don’t have energy reserves. I frequently tell others I’m tired and, if necessary, that my fatigue is part of the TBI. Just saying what is real helps bring what is invisible to the surface and further reduces my anxiety and self-consciousness about a performance, which can be simply engaging in a conversation.

My wife now does the preponderance of grocery shopping, alleviating my anticipatory worry about managing a trip to the supermarket. I could also purchase groceries online or go without products I think I need.

I do the bulk of other shopping on-line, but when I need to step inside a store, I prefer to shop at local stores with fewer aisles and fewer people when possible. I choose, though, not to go from store to store looking for an item.

I am becoming more astute about how to simplify ordinary activities.

I try to give myself guilt-free permission to let things not get done. I’m retired. I worked for 40 years and I have a severe brain injury. I can stay in bed for as long as I want.

At 75, I don’t need to have my days guided by a list. In truth, I could have stopped keeping lists years ago, but now is better than later. If I forget to do something, the world will be ok, my family will be fine, my friends will remain friends.

I trust scientific studies will continue to try and find ways to alleviate – or address more adequately – the fatigue

accompanying chronic Traumatic Brain Injury. Many of the studies I’ve looked at use the language “subjective fatigue,” I assume to distinguish it from a symptom that can be measured, like blood pressure. The notion of subjectivity can be confounding, as it seems to question the legitimacy of the experience of fatigue. Subjective. Idiosyncratic. Individual.

The ways in which we each experience fatigue is no doubt individual; not everyone will feel the same heavy blanket I do. But in between bouts of heaviness and wishing it wasn’t so, we each need to absorb, address, and hopefully come to peace with the reality that fatigue is an integral consequence of TBI. 🧡

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



The Wonders of a Walker



BY IAN HEBEISEN



My mom first sustained her traumatic brain injury over seven years ago, leading to frequent fatigue. She'd come home from work and flop down into a chair, trying to regain enough energy to get through dinner. Our family struggled to understand at first – she'd been fine before, so the sudden bouts of fatigue took some adjusting.

"Fatigue isn't the same thing as being tired," said mom. "Tired means you need to rest and you'll be recharged when you wake up. When you're fatigued, even if you rest you don't feel recharged."

Mom experiences two kinds of fatigue: mental and physical. Her mental fatigue takes the form of migraines or pressure in her head, while she describes physical fatigue as a heavy, burning sensation that lingers in her arms and legs. "It literally makes it hard to pick up my leg to take the next step," said mom.

Both forms of fatigue hindered her everyday activities, but the physical fatigue limited the amount of walking she could do in a day. Stairs would be a struggle, sometimes taking multiple minutes to ascend a flight of less than a dozen steps. In addition, her balance would waver when fatigue set in, so we'd offer up an arm when out walking.

To help reduce fatigue, a doctor recommended mom started walking with a cane. "It did help some," said mom. "It prevented me from falling, and made me feel more stable. It reduced fatigue, but not much." When going on longer walks or participating in more strenuous activities, my mom would end up using two canes or hiking poles to further increase her stability.

When mom's physical therapist found out about the two-cane system, they both decided it was time for a gait evaluation. This type of testing analyzes a person's posture, balance, and other factors while they walk. After the evaluation, mom's physical therapist suggested trying out a walker.

"The fear is loss of mobility by putting them in a walking aide. In actuality, my mom's mobility improved. She can walk further than with the cane, tiring less quickly."

Mom noticed an immediate difference, with a notable improvement in her gait. "I could walk straighter, my body wasn't as twisted, and I could walk at a better pace," said mom. In November of 2021, she got her own walker, and her physical fatigue greatly reduced.

My dad repeatedly commented on how the walker affected her mobility. "She started standing straighter, and her balance was better," said dad. "Her body alignment is so much better because the walker is symmetrical. You know when people with a cane walk hunched over? With a cane, her body kind of adjusted to it, which caused misalignment. A walker helps her align so she can walk further, faster, and better."


Mom noticed a slight stigma around the walker once she got it, particularly from doctors. "The thought process is if

you put a person in a walker, the next step is a wheelchair,” said mom. “The fear is loss of mobility by putting them in a walking aide.” In actuality, my mom’s mobility improved. She can walk farther than with the cane, tiring less quickly.

She also noticed people reacting in a sympathetic manner when they saw her with the walker. “One guy saw me and said ‘oh no, I’m so sorry!’ I just laughed and said, ‘it’s the best thing that’s happened’,” said mom.

Finding the right equipment can make all the difference. If your loved one struggles with physical fatigue, sit down and brainstorm ways to help them. Listen to their symptoms, taking note of particular ailing areas and what triggers them. Recording this can help your loved one find patterns, which they can take to a professional for assistance. In the meantime, find other ways to offer support — physically and emotionally. Something as simple

as providing an arm to lean on or a shoulder to cry on can go a long way.

If you think a walker might be beneficial for you or a loved one, talk to a doctor or physical therapist before making a purchase. Once you get the go-ahead, try out a variety of walkers. They come in all shapes and sizes, and you need to be sure to find the one that works best for you. 

Ian Hebeisen is a writer based in the Twin Cities. Graduating in 2020 with a degree in Literature with a Writing Emphasis, Ian spends his time writing for *The Brain Health Magazine* and *JUVEN Press*. He also writes comics, zines, short stories, and poetry. He lives with his partner and two cats, and enjoys playing board games and reading.



How Much Does Fatigue Cost You?

BY JEFFREY M. HELLER, ESQ.



If the insurance company refuses to compensate you fairly following your TBI accident, and you are forced to file a lawsuit, your lawyer will have to answer tough questions for the jury, such as “what is your injury worth?” and “what should the jury order the person or company who caused your injury pay you?” If your lawyer cannot do this, the jury could award you nothing. To make this even more difficult, the law prohibits lawyers from asking jurors to put themselves in their client’s shoes. This is called the “Golden Rule.” If your lawyer breaks the Golden Rule and asks the jury: “Put yourself in my client’s shoes. How much money would you want if this happened to you?” the case would result in a mistrial, which means the trial would have to start all over. Could you imagine receiving a jury verdict of many millions of dollars for your TBI only to learn that your lawyer did something improper? And worse, you must start the entire trial over, possibly months if not years later!

“On its own, fatigue is an injury difficult for people to understand. This could be said for many complications from TBI but fatigue especially, because you cannot touch it, you cannot feel it.”

Well, what happens if your primary injury is fatigue? How does your attorney show the jury what this amounts to without asking them to put themselves in your shoes? And either way, how will they ever be able to put a “value” on what you go through day-in and day-out?

Fortunately, lawyers who specialize in TBI cases know how to navigate through this difficult conundrum, as we face it every time we step into a courtroom. When we ask

Continued ...

... continued from previous page.

jurors to determine an amount of money for your harms and losses, we are required to explain what the correct amount is and why. The best TBI lawyers will make sure your friends, family, and co-workers testify on your behalf, because they are oftentimes in the best position to explain to a jury what you go through every day. But what else do they do to ensure the jury really “sees” you?

On its own, fatigue is an injury difficult for people to understand. This could be said for many complications from TBI but fatigue especially, because you cannot touch it, you cannot feel it. Sometimes, it can be right next to you without you even knowing. Surely then, a jury does not understand what it “costs,” do they?


“[S]tudies show individuals with a disability are prone to unemployment. Fatigue is absolutely one of the reasons why. Unemployment is even more profound as an individual grows older. This results in direct economic harm to a TBI survivor.”

Your TBI lawyer should know fatigue causes devastating consequences. From an employability standpoint, fatigue destroys, if not eliminates, your work output. The boom-bust cycle makes it virtually impossible to produce at a steady level. You may be able to get away with a productive morning overshadowing your fatigue-filled afternoon, but studies show individuals with a disability are prone to unemployment. Fatigue is absolutely one of the reasons why. Unemployment is even more profound as an individual grows older. This results in direct economic harm to a TBI survivor.

Fatigue also destroys relationships. After a long day, ask a non-TBI survivor how much capacity they have for

conversation or intimacy. On top of this, one can only imagine a TBI survivor’s difficulty with constant fatigue.

But again, how do you put a number on this? An experienced TBI lawyer will hire experts to help. Numerous experts in various capacities can cite literature and research to educate the jury as to how many different aspects of your life fatigue impacts. While your friends, family, loved ones, and co-workers are phenomenal witnesses, your TBI lawyer can use the skill and experience of various experts to prove how each aspect of your life amounts to a different level of compensation. Imagine if a juror gave you \$500 every time you felt too fatigued to participate with your family, and experience the loving moments every parent, spouse, child, etc., lives for. Now imagine that calculated over your life expectancy. Since this happens to most TBI survivors several times a day, the amount can add up quickly. This is just one example your lawyer will use with the jury.

If you or a loved one suffer fatigue because of a TBI, and a negligent third-party caused your TBI, it is critical that you call a TBI lawyer immediately to help you calculate the monetary value of your day-to-day losses. If you do not fight for what you deserve, a jury will never get the chance to even hear about what life is like in your shoes. After what you have been through, this is the least someone can do for you. 

Jeffrey M. Heller is a trial attorney with Nurenberg, Paris, Heller & McCarthy Co., L.P.A., in Cleveland, Ohio. Mr. Heller focuses his practice solely on personal injury and medical malpractice, specifically in the area of brain injury. Mr. Heller firmly believes in the right to trial by jury and has tried more than 25 cases to a jury verdict. His past five jury verdicts have resulted in more than \$3 million in damages for his clients. Mr. Heller has been included on Ohio’s Rising Star list, which is selected by the research team at Super Lawyers. He has also been selected to America’s Top 100 Personal Injury Attorneys and the National Trial Lawyers Top 40 Under 40. He can be reached at 216.621.2300.

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Faces of TBI
by Amy Zellmer

A podcast series by survivors for survivors.
Creating awareness for Traumatic Brain Injury (TBI).

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YOGA

Standing Forward Fold

HEALTHY LIVING



BY AMY ZELLMER, EDITOR-IN-CHIEF

Yoga 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, be able to balance, or even be able to stand up. The beauty of yoga is every pose can be modified to accommodate anyone.

An important aspect of yoga is your breath. Connecting your breath to your body and getting oxygen flowing to your brain makes yoga powerful for recovery. Yoga also quiets the mind, letting anxiety and distracting thoughts drift away.

Standing Forward Fold (Uttanasana) helps stretch the hamstrings, calves, and hips. It helps calm the brain and central nervous system, relieving stress and anxiety. It also stimulates the liver and kidneys.

Contrary to popular belief, it is not about touching the floor or your toes. To keep your back safe in the pose you should only forward fold as far as you can while keeping your back straight. Once the upper or lower back begins to curve, you have reached your maximum stretch.

Instructions:

1. Begin in Mountain pose with your feet on the floor and your hands at your sides.
2. As you inhale, raise your arms overhead.
3. On your exhale, slightly bend your knees and fold forward from the hips — not your lower back.
4. Take several breaths, keeping your neck neutral and your shoulders pulled back and down away from your neck.
5. On an inhale, slightly bend your knees as you use your legs to gently lift you back up to standing, leading with your chest, not your lower back.

Modifications:

- Use a block on any height to rest your hands while keeping your back straight.
- If doing chair yoga, follow the above steps but widen your legs to make room for your body to forward fold. 🦿

Join me for monthly yoga classes via zoom for only \$10 a month: www.patreon.com/amyzellmer



ESSENTIAL OIL:

Lemon and Lemon Vitality®

HEALTHY LIVING

BY AMY ZELLMER, EDITOR-IN-CHIEF

Essential oils are a complementary tool that can help you achieve a healthy lifestyle. They are easy to use and smell great with a variety of uses.

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. They are not regulated by the FDA, so you must look closely at the labels. The labels may say they are 100% therapeutic-grade oils when they are not. If the ingredients list anything other than the plants, 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.

Lemon and Lemon Vitality®

Originally native to Asia, the lemon tree wasn't common in Europe until the 16th century. It is part of the evergreen family and reaches a height of about 20 feet. Known for its cleansing properties, lemon essential oil is widely used in skin care and home cleaning solutions for these benefits. Its fresh, zesty aroma also makes it an important top note in perfumes, as well as an effective odor neutralizer when diffused.

Lemon essential oil's fresh, uplifting aroma cleanses the air and eliminates odors when used aromatically. Taken internally, it provides immune and circulatory support, and can be used to add a fresh flavor to food and beverages.*

FEATURES & BENEFITS

- Fresh, zesty, citrus aroma
- Helps neutralize unwanted odors
- Supports the immune system
- Provides circulatory support
- Removes sticky adhesives and residues from non-porous surfaces
- May support the immune system when taken internally*
- Contains antioxidants*

SUGGESTED USES

- Diffuse Lemon to neutralize unwanted odors and fill your space with its uplifting and refreshing aroma.
- Add it to your floor, window, or multi-surface cleaning solutions for a boost of aroma and cleaning power.
- Add it to dishwashing detergent to help clean and deodorize your dishwasher.
- Add Lemon Vitality to a tall glass of cold water for a fresh, antioxidant-infused drink to start your day.*
- Use it to create custom vinaigrettes or marinades to add a bright taste to salads or grilled meat and vegetables.
- Add it to tea, baked goods, homemade preserves, and other treats.

*These statements have not been evaluated by the Food and Drug Administration. Young Living products are not intended to diagnose, treat, cure, or prevent any disease. 🌿

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



"Amy is a prime example of how powerful and life-changing combining personal experience, passion, and advocacy can be."

— Ben Utecht, 2006 Super Bowl Champion and Author



How to Use **SUNSTONE** to Beat Burnout and Fatigue

BY KRISTEN BROWN



HEALTHY LIVING




Burnout and deep fatigue are a real challenge in today's overscheduled and constantly changing world. Whether caused by true over-work, a healing body or brain, or too much routine and sameness, it's important to take steps to soothe and uplift the body, mind, and spirit. One powerful way to give yourself an energetic kick is to use Sunstone. This orange and glittery crystal targets your creativity, passion, and inner drive that needs to be turned on when you're tired or fried.

Here are three powerful benefits of using Sunstone:

- 1. Fatigue:** *When you wake up in the morning, do a quick Sunstone Meditation by envisioning orange light flooding your body down to the cellular level. Holding a Sunstone in one or both hands, create a circuit of energy to wake you up and propel you into your day. Breathe in and out through your mouth to stimulate your energy and get your body activated.*
- 2. Burnout:** *If you're feeling drained or uninspired, set a piece of Sunstone in front of you with a candle and do a 10-minute journaling session. Write about your favorite memory, a big goal, your ideal day off, or other inspiring topics to turn on your feel-good energy and wake up your inner drive. For bonus energy, share your writing*

with another person to create a connection that gets you motivated.

- 3. Boredom:** *When life feels stuck or has too much sameness it can exhaust the spirit and drain the body and mind. When this happens, it's time for a Sunstone Spirit Bath! Go outside with a Sunstone Crystal and look at the glinting of the sun on the stone. Imagine those glittery specks expanding out and merging with your own energy field. Then take a 10+ minute walk while breathing deep to activate your physical body. This floods you with endorphins and interrupts the "bored" mindset keeping you stuck. When you're bored it's time to MOVE!*

A powerful crystal that can boost your vitality, Sunstone gives you that extra spark you need when you're tired or burnt out. It makes a perfect crystal to have on hand at work or home, and a wonderful gift for others too. It's not only filled with good energy, but gorgeous to have on display. 

Kristen Brown is a bestselling author, keynote speaker, and energy mastery expert who charges up her clients by syncing up their body/mind/spirit for work and life growth. Want more info on crystals and energy healing? Connect with Kristen at: KristenBrownPresents.com

QUINOA TABBOULEH


Serves: 4 Prep: 10 mins Cook: 15 mins



What you need:

- 1 cup (170g) quinoa
- 2 medium tomatoes, finely diced
- 1 small cucumber, finely diced
- 1 bell pepper, finely diced
- 1 red onion, finely diced
- ½ cup (15g) parsley, chopped
- ½ cup (15g) mint, chopped
- juice of 2 limes
- 2 tbsp. olive oil

Directions:

- 1.** Cook the quinoa according to instructions on the packaging. Once cooked, place in a large salad bowl.
- 2.** Finely dice the vegetables and chop the fresh herbs, then add to the salad bowl.
- 3.** Squeeze in the lime juice, drizzle with olive oil, and season to taste with salt and pepper. Mix everything until well combined.
- 4.** Serves as a salad or side dish. Store covered and refrigerated for up to 3 days. 

HEALTHY LIVING

BY AMY ZELLMER, EDITOR-IN-CHIEF

Nutrition per serving:

272 kcal

10g Fats

42g Carbs

8g Protein

Surviving The Emotional Effects of **SEXUAL TRAUMA**



BY CARRIE COLLINS-FADELL

feel like no one understands. Friends and family might not know anything happened, or expect the victim to work through their trauma quickly and go back to who they were before the assault. This can lead to further frustration, isolation, guilt, and shame. Learning why sexual assault victims respond a certain way, and that these normal responses provide a good support system, are keys to helping them take their lives back from the trauma.

JULIE: When we are in a chronic state of fight or flight, the body shuts down the higher executive brain centers allowing us to make good decisions, plan, and prioritize. When in this state, our bodies and brain should only be prepared to fight or flee from the threat, not operate from the higher intellectual center. The brain changes occurring after experiencing a sexual assault are the root cause of post-traumatic stress disorder. PTSD is indeed a significant and challenging brain disorder.

CARRIE: We sometimes hear from clients who feel guilty because they have not disclosed to others that they have been assaulted. Resiliency and advocacy can mean a variety of things and can morph and change over time.

JULIE: Every survivor will walk a different journey, and that's okay. While on the way to school as a teenager, I was assaulted by a stranger. It's something I did not share regularly with my colleagues in medical school. As a practitioner, when I speak openly about it, it gives my colleagues a richer and more diverse understanding that many of their clients who are professional women and doing just fine, could also be a sexual assault survivor. For those whose lives have not been touched by this deeply personal violence, it changes the script on who they see as a "survivor". I find when I share my experience with other survivors, it empowers them to take charge of their own narrative.

Every year in the United States, an estimated 470,000 women are sexually assaulted. Sadly, that number is rising and likely even higher as assaults often go unreported and uncounted. While we regularly analyze the statistics, we as a community need to add to the conversation by exploring ways to support the brain health and well-being of survivors.

Carrie Collins-Fadell, a member of the Editorial Board for Brain Health Magazine, discusses options for providing support to sexual assault survivors with two esteemed professionals. Following is her exclusive roundtable with Julie Rake, MSPAS-PAC, an integrative health professional and sexual assault survivor, and Anne Adkinson, the Women's Brain Health Navigator for Veterans and Military Families.

CARRIE: People can be confused how sexual assault impacts the brain. How does that happen?

JULIE: Being a victim of sexual assault is overwhelmingly traumatic. One way the brain is affected is the limbic center of the brain, our "fire station" that gets the call during threats, becomes hyper-aroused or "hyperactive." This hyperactivity causes the release of a variety of stress hormones that flood the body and brain.

Another part of the brain, the Amygdala, becomes "hijacked." As this center of the brain gets lopped into hyper-reactivity mode, a person stays "stuck" in fight or flight and experiences a great deal of negative outcomes. Mental and emotional effects of this hyper-reactivity include chronic fear, anxiety, depression, irritability, flashbacks, anger, and the tendency to develop negative feelings about the world and ourselves.

ANNE: So much negative stigma surrounds sexual assault, as well as post-traumatic stress, depression, anxiety, and all the other NORMAL reactions to such a violation. Victims cycle through a wide range of emotions and often

ANNE: I work with female veterans, some of whom survived a sexual assault while serving our country in the military. Some are not comfortable revealing they were assaulted for a myriad of reasons, including a fear of retribution from the chain of command and embarrassment that it happened to them. Some must work with or take orders from the person who assaulted them.

I always want my clients to know however you handled it at the time, you did the best you could. Also, advocacy takes many forms. Sometimes the best thing you can do is be a self-advocate and just take care of yourself.

CARRIE: What role can loved ones play in the recovery of a survivor of assault?

JULIE: It is human nature to want to be loved and understood by those who mean the most to us. Loved ones can always support survivors by encouraging them to be healthy and take care of themselves; it reminds us we matter. My brother gifted me a book on meditation when I was going through a hard time, and it changed my life.

ANNE: Fear of losing the love and support of those closest to them is one reason a survivor could potentially stay silent and not disclose to others or even report their attack. If you don't know what to say if someone confides in you that they survived an assault, simply tell them you are so glad they felt they could share that with you. Also, reaffirm that they are brave and it's not their fault. Then, just be there for them without judgment. It's really that simple.

CARRIE: There can be a lot of anger and grief after surviving an attack.

ANNE: Anger, which usually comes before grief, can give us a false sense of power and security. People can easily get stuck in the anger phase and not even get to grief and mourning. Anger can be used as a protection or to drive people away. We can feel a need to stay angry because what happened to us was so terrible. Ultimately, the anger can lead to isolation from those we need around us the most as we move forward.

JULIE: Absolutely. You must be kind to yourself, no matter what your pace or process for understanding what happened, and developing your unique plan to get yourself through it. A range of emotions comes after an attack, including shame, blame, grief, and fear. Survivors can be angry that this happened and even angry at themselves for "letting" it happen, even though the survivor is NEVER to blame. There can be a loss of sense of security and the anger can manifest in some self-destructive behaviors, such as misusing substances or being hypervigilant.

CARRIE: Many survivors talk about alternating between being fatigued and feeling the need to stay vigilant. How do you explain that?

ANNE: This is really where we see survivor fatigue set in. Your brain really can't be on high alert all the time without serious consequences for both your brain and the rest of your body. Even things you may think aren't connected, like your immune system, will suffer. If you experience symptoms like chronic fatigue, muscle tension, changes in sleep, or involuntary shaking, please reach out and talk to a medical professional equipped to help you work through this trauma

JULIE: I can understand the heightened fear after surviving an attack. After I was attacked on my way to school, I felt the need to always be on guard and ready to defend myself. Ultimately, it led me on a journey to understand more about our brain and how we can get stuck in fight or flight mode.

CARRIE: Thanks for sharing all your important insights. Is there anything else you would like all of the amazingly brave and strong survivors to know?

ANNE: No matter the circumstances, what happened to you is NOT your fault and you are not alone! Unfortunately, what you are going through has happened to many others and while it's normal to feel the way you do, you aren't stuck there. I encourage you to reach out and find your tribe, whether that's with fellow survivors, an organization, or a supportive friend. Shame can only control us when we let it lead us into the shadows. When we shine light on our shame, it can't hold us hostage anymore.

JULIE: Yes, indeed. I would like survivors to know they were made to heal. Your body is an amazing, intelligent, organizing system, and your brain is capable of tremendous growth and recuperation. Don't give up! Stay strong and be courageous. Face the issues confronting you with an experienced therapist and healthcare team.

Millions of individuals have navigated this path, experienced healing, and flourished. The most difficult experiences in my life propelled me to rebuild myself anew... piece-by-piece. My experience proves that living a life of joy, passion, and purpose is possible after an assault. Good health and healing are possible. Never give up! 🧡



JULIE RAKE



ANNE ADKINSON

ATHLETIC THERAPY

and *Healing the Nervous System*



PODCAST HIGHLIGHT

BY IAN HEBEISEN

At a young age, Matthew Bennett adopted the mindset that “health is wealth.” Several of his family members would get really sick, and watching them combat these illnesses showed Bennett the importance of maintaining healthy habits. “We’re given one body, one life, one brain, one opportunity. That kind of drove me,” said Bennett.

Since then, Bennett has worked with athletes from all around the sporting world. While working as an athletic therapist for the NHL, he treated Sidney Crosby after the hockey player sustained a devastating concussion. Using his background in naturopathic medicine, Bennett gets positive results when helping treat concussion symptoms.

“During the games, [an athletic therapist] helps in an emergency situation,” said Bennett. “Then afterwards it’s a lot of long hours, long days of developing rehab programs — working with the strength and conditioning coach, working now with the nutritionists, and bringing those individuals back into their high performance.” Treatment and recovery vary between patients. Some require chiropractic care; others might need acupuncture. Same goes for recovery speed — one patient might feel better in a matter of months while another takes almost a year.

“Treatment and recovery vary between patients. Some require chiropractic care; others might need acupuncture. Same goes for recovery speed — one patient might feel better in a matter of months while another takes almost a year.”

One client, a boxer, tore their bicep while training and went home without realizing the damage. He went to a hospital a couple of days later, and doctors referred him for emergency surgery almost immediately. However, complications from the surgery made the situation worse.

“The bicep was wrapped around the radial nerve, and the surgeon accidentally hit the nerve. When he woke up from the surgery, the boxer was stuck with his hand completely contracted in a fist,” said Bennett. At the time, the doctor estimated the hand would take two years of recovery in order to move again. The patient turned to Bennett, who says he “just dove into the nervous system.”

Bennett began studying how the nervous system communicated with the body. His research led him to the peripheral nervous system. “I said, ‘Hey, if we can access the brain, then why can’t we help nourish the brain back to health? We are already doing the aligning part of it with the bones and the muscles and the nerves ... so why not nourish it like we do our body?’”

The boxer stuck with his exercises and attended rehabilitation for eight months. He made a remarkable recovery and ended up winning a belt in his weight division. The question of nourishing the brain stuck with Bennett, and he delved deeper into his research. “I discovered about



40 different ingredients that helped fuel cells to decrease inflammation and help sleep and recovery,” said Bennett, “Then narrowed it down to 16 ingredients.”


From there, Bennett created HAVN Life with a friend. Aligning with both concussion recovery and mental health solutions, HAVN Life provides supplements to naturally reduce inflammation and combat symptoms. They hold a US patent, a Canadian patent, and approval from Health Canada.

“The main thing that I wanted to do was something that was easy to use, effective, efficient, and accessible,” said Bennett. Each supplement is specially designed, with one product targeting eye inflammation. “As the day gets darker, the eye starts to stimulate glycine to be produced. That goes along the pathway to the middle of the brain to the pineal gland that says, ‘let’s start with that circadian rhythm.’ And the glycine? We actually have that inside the supplement.”

“[Bennett] emphasizes the importance of forgiveness — of the symptoms, yourself, and the cause of any accident. ‘Release that space and then focus on you. Do what you need to do to get better.’”

Bennett recommends eating the rainbow to ensure an intake of a variety of nutrients. “Everything has different

nutrients in it,” said Bennett. “That will help us pivot faster.” He also emphasizes the importance of forgiveness — of the symptoms, yourself, and the cause of any accident. “Release that space and then focus on you. Do what you need to do to get better.”

To learn more about HAVN life, visit www.yourhavnlife.com. You can listen to the entire conversation on the Faces of TBI podcast, available on Apple Podcasts or wherever you find your podcasts. 

Ian Hebeisen is a writer based in the Twin Cities. Graduating in 2020 with a degree in Literature with a Writing Emphasis, Ian spends his time writing for *The Brain Health Magazine* and JUVEN Press. He also writes comics, zines, short stories, and poetry. He lives with his partner and two cats, and enjoys playing board games and reading.

You can listen to this episode of Faces of TBI on iTunes or wherever you listen to podcasts.



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