



April Newsletter

Earth Day

This month, the Newsletter came out a bit late due to our centers getting quite busy, thank you! We thought it would be appropriate to publish the April Newsletter on Earth Day. As we celebrate this beautiful earth we all share, which is still a mystery to us, we can also appreciate the incredible and intricate links in our health care and in our brains. TMS is a gentle treatment to assist the brain in healing imbalances naturally, through resources we already have. This earth day, April 22, we hope each person reading this finds a time to value themselves and the world around them and to care for our natural resources. Instead of finding the imperfections to seek out the wholeness that is all around us.

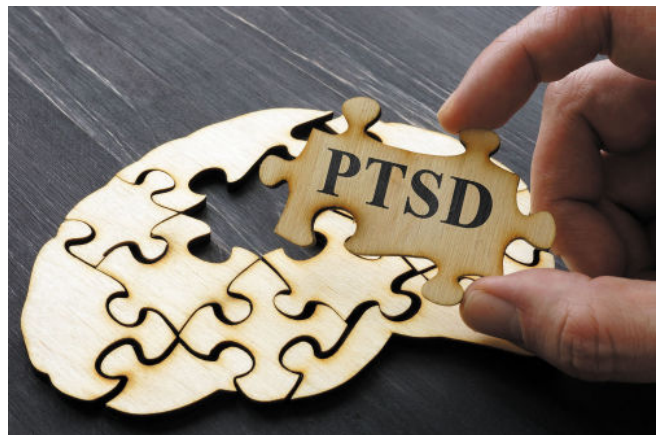
“Life on earth is a whole, yet it expresses itself in unique time-bound bodies, microscopic or visible, plant or animal, extinct or living. So there can be no one place to be. There can be no one way to be, no one way to practice, no one way to learn, no one way to love, no one way to grow or to heal, no one way to live, no one way to feel, no one thing to know or be known. The particulars count.”

— Jon Kabat-Zinn, *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*



Post Traumatic Stress

It is estimated that 7 to 8 people out of every 100 will have PTSD at some point in their life, about 8 million individuals in the USA at any one time. PTSD can be experienced by those involved in, or witness to, a traumatic event such as natural disaster, accident, violence, threat of violence, or near death experience. It can also impact those who experience repeated exposure to distressing details of such an event. People whose professional lives require them to be exposed to trauma, or who relive



the traumatic experiences of others, such as military, police, and hospital staff, may also experience PTSD.

PTSD symptoms may present months or years following an event and can sometimes go unnoticed. Women experience PTSD far more often than men, almost 10% of women develop PTSD symptoms during their life, compared to

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Recipe: Roasted Salmon or Halibut with Chimichurri, Asparagus, and Potatoes.

For a quick, healthy weeknight dinner: our daughter recently needed to take a cross country flight to visit a relative struggling medically and asked me for the quickest fish recipe I could think of that was healthy and still made an impression. We made this dinner in about 40 minutes. Order of operation: Potatoes first. Then make veggies, fish and lastly, chimichurri. 4 servings.

Fish

- 4 pieces of fish 4-6 oz, works well with any fleshy fish such as salmon, halibut, sea bass
 - Seasoning - we use Santa Maria seasoning which is a great seasoning for fish. A simple combination of S & P, garlic, paprika and lemon will work. Any seasoning you prefer to rub on your fish is fine if not too strong.
 - Citrus squeeze - lemon or orange
 - Fat - butter, avocado oil or EVOO
- Use clean dry fish. Rub with seasoning of choice, drizzle with olive oil and a squeeze of lemon, and a tiny pat of butter. Roast 15 minutes on 425 degrees until fork pierces easily. Remove from oven.

Chimichurri

- 1 bunch cilantro (can sub dill, zaatar, oregano or basil if you do not care for cilantro, if you like cilantro - definitely use cilantro)
- 1 bunch parsley
- A few springs of oregano

- EVOO
- 1 lime
- 1-2 cloves of fresh garlic
- Salt
- Sprinkle of red chili

This is our favorite. Wash and dry cilantro, parsley, and oregano. Remove stems but don't be too particular about it if the stems are tender. Put in blender or food processor (nutribullets are great for this). Pour EVOO to about midpoint of your packed down herbs, squeeze ½ a lime or a bit more of you love lime, and put a large peeled garlic in the mix with about ¼ teaspoon of salt and a light sprinkle of red pepper. Blend. Taste. Add lime/garlic/EVOO/red chili to taste. Texture should pour like a somewhat thick salad dressing. Use olive oil to get it right - this also makes a tasty bread dip.

Potatoes

- Golden potatoes
- EVOO
- Salt

We find golden potatoes to be the most nutritious and tasty potato variety (other than the sweet versions). Wash and dry potatoes. Stab a couple times with a sharp knife or fork. Rub with EVOO and also rub quite liberally with salt. The best way to roast is to give large goldens about 45 minutes in a 350 oven - no foil. Just place a pan underneath so they do not drip. On a higher heat, they will roast in shorter time.

Vegetables

Select and steam your own. We tend to use asparagus or broccoli with a dash of seed or nut oil in the water

Assembly

Assemble fish and steamed vegetables with potatoes on the plate and pour chimichurri on potatoes and fish. It's delicious. Many do this dish with mashed potatoes or rice versus baked potatoes, so opt for what starch (if any) works best for you. Our preference is mashed potatoes, but sometimes, time is not on my side and a beautifully baked potato is heavenly.

qEEG Guided

qEEG guided TMS is rarely found in the realm of TMS. Using an qEEG (quantitative electroencephalogram) can be a tremendously productive option to guide TMS treatment. Many TMS programs are the same. John's TMS program will look the same as Jane's, however, using qEEG guided TMS can provide extremely individualized treatments. We do provide traditional TMS treatment, but we also offer qEEG guided treatment.

I recently had a qEEG done and it felt a bit like a head massage. I came in and a specialist placed what looked and felt like a light bike helmet on my head. He adjusted the soft ends of the probes and then I closed my eyes. It's not messy, and my hair actually looked better after I left! I sat calmly with my eyes closed and the equipment recorded the delta, theta, alpha and beta neurotransmitter activity from the posterior of my brain, central cortex, and frontal cortex. When I opened my eyes towards the end of the procedure, I could see my brain wave activity on the monitor. It was really interesting to see my activity patterns and to know that they are a part of my mental health.

These recordings are sent to a lab that crafts individualized treatments for each person. With a condition like PTSD, having the



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4% of men. If you or someone you know is experiencing the following symptoms for more than a month's time, it may be time to seek support:

- Reoccurring, intrusive, or involuntary memories or flashbacks
- Difficulty sleeping and upsetting dreams
- Physical response (such as increased heart rate, perspiration) with emotional triggers
- Avoidance of memories, objects, and people that are associated
- Preoccupation with the event, not being able to stop thoughts and images
- Associating smells, sounds, tastes to the event
- Inability to remember aspects of the event, memory blocks
- Elevated self blame, shame, fear, pervasive negative feelings about yourself or others
- Loss of interest in activities previously enjoyed
- Inability to experience happiness, joy, love
- Detachment, feeling emotionally numb
- Difficulty concentrating
- Self destructive, or aggressive behavior
- Jumpy, irritable, on guard reactions, or heightened sensitivity
- Tendency to self-medicate through alcohol or drug use

PTSD can be difficult to overcome and tends to be treatment resistant to both psychological and pharmacological approaches. However transcranial magnetic stimulation can help those suffering from PTSD in a gentle and non-invasive manner. TMS is an ideal solution for those

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qEEG guided TMS can be invaluable to one's health care. During the course of your treatment, you can actually see your brain wave patterns changing and improving as you continue treatments. qEEG guided TMS provides interesting and valuable support to the health care journey.

At Brainstim Centers, we do not provide therapy, we do not prescribe drugs, but we assist your body's natural ability to heal in a quiet and relaxing environment. TMS is FDA approved for the treatment of major depression and is being considered for other conditions. At this time, TMS is not covered by insurance for PTSD, however clinical trials show significant improvement and often alleviation of PTSD symptoms. Please call us to discuss payment options and treatment plans.

suffering from brain circuitry issues who may not be suited to traditional psychological and pharmacological treatment. TMS works by entraining the neurotransmitters, in other words,

when our brain fires neurotransmitters they work together with synchronistical rhythm, ideally. Difficult life experiences, trauma, and disease can cause the interaction of neurotransmitters within our brains to become chaotic. To say that the human brain is complex is putting it mildly. Consider this: The average human brain is made up of 86 billion neurons, and

each of these neurons has 10,000 connections.

"If you know how to worry, you know how to meditate. It means to think of something over and over."

JOYCE MEYER
American author and minister

THE Healthy

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Dr. Mark Liker

Dr. Mark Liker is a board certified neurosurgeon, MD., FAANS, FACS and founder of California Neurosurgical Institute and BrainStim Centers, Inc. He has authored over 40 peer reviewed manuscripts and is an Associate Clinical Professor of Neurosurgery at Keck Medical with the USC Deep Brain Stimulation Center. Dr Liker has spent 25 years conducting neurosurgeries and is faced daily with the ramifications of physical and mental strain and damage. The brain is his passion, his life's work. Always searching for the best in non-surgical preventative care, he has brought together the most innovative technology with the most up to date research to create BrainStim Centers, the premier neuromodulation clinic in California.



Mark A. Liker MD, FAANS, FACS, Neurosurgeon

founder of California Neurological Institute and Clinical Assistant Professor at Keck Medicine of USC, brings navigated TMS to the Los Angeles community

head, we deliver gentle magnetic pulses that cause brief activity in your brain cells. As you progress through your treatments, the ongoing stimulation gradually helps your brain form newer, healthier neural pathways. To give you an idea of the efficacy of TMS therapy, Harvard Medical School reports that roughly 50-60% of people with depression who have "tried and failed to receive benefit from medications experience a clinically mean-

ingful response with TMS." By assisting the neurotransmitters in communicating in a rhythmical and peaceful way through magnetic stimulation, an individual can relax and allow the brain to function in an efficient and productive manner, alleviating imbalances. Imagine you were playing tennis and every time you hit a ball across the net, the individual you were playing was not there to hit it back. There would not be much of a game going on. Now imagine those tennis players are both neurotransmitters, your neurotransmitters, in order to function at optimal level they need to work together. TMS essentially helps encourage teamwork in the circuitry of the brain. TMS doesn't hurt, and the patient sits in what feels like a cushy armchair. Our patients tell us they begin to feel more energy and clarity around week 3. At BrainStim Centers, Inc., the entire procedure has the oversight of a neurosurgeon passionate about brain health - the brain doctor with a heart, Dr Mark Liker.

Newsletters written by Sonja Hillman Suchy

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These neurons and their connectors form a circuit, which allows electrical activity to pass from one brain cell to the next. These circuits control most of the functions in your body, from muscle movement to mood regulation. For example, when you have a mood disorder, such as depression, the circuits in your brain that regulate your moods, which are mostly found in your prefrontal cortex, are less active. In turn, these low neurotransmission levels can lead to imbalances in serotonin, dopamine, and norepinephrine – the primary neurotransmitters associated with depression.

The goal behind TMS therapy is to stimulate specific areas of your brain for better function. Through a device that we place on your