

December Issue: Week Three

Monthly Breakdown

Week 1

The 'Where': Lead-o-meter

Week 2

The 'What' and the 'Why'

Week 3

The 'How': Building up your skill

Tapping into our Nervous System for Joy

In our final ReCharge for 2020, we are applying what we have learned over the past two months from the *Polyvagal Theory*. Let's explore how we can stimulate our nervous system to feel less stress and more joy!

Refer to the Polyvagal Theory Map diagram on the next page.¹

This diagram may push and challenge your thinking. Most people assume that we only feel safe and connected in the *Rest & Digest* state. However, this diagram suggests that we can actually have positive stimulation of our sympathetic nervous system and parasympathetic nervous system. This stimulation parallels some of our physiology in the *Fight or Flight* and *Freeze* states.

In our *Rest & Digest* state, we feel safe as our nervous system is facilitating human connection, through ways such as face-to-face engagement, eye contact, or a soothing, melodic voice.

Unlike when we are in the *Flight or Fight* state, we can feel safe when our sympathetic

nervous system is engaged and performing activities such as sports, dance, yoga, sex or art. When you feel safe, pleasure and physical connection become possible. This safe mode of sympathetic action is called **mobilization**.

When we exhaust ourselves (like after a full day of skiing!), the body can fall into an **immobilized** state where we experience rest and rejuvenation. Here we may be able to enter into deep relaxation and ecstatic states through meditation, sexual connection, and sleep. We can **feel safe** in the parasympathetic state — unlike in the *Freeze* state — by resting in the most exquisite way: **bliss**.

Depending on the situation and environment, the nervous system can change and shift from one state to another in self-regulating, co-regulating or dis-regulating ways, as demonstrated by the arrows in the diagram below. This is where different types of therapy and healing methods can help to restore the mind-body connection and can rejuvenate our relationships with ourselves and others.²

POLY VAGAL THEORY MAP

Watch this [5-minute video](#) which explains this exact diagram in more depth.

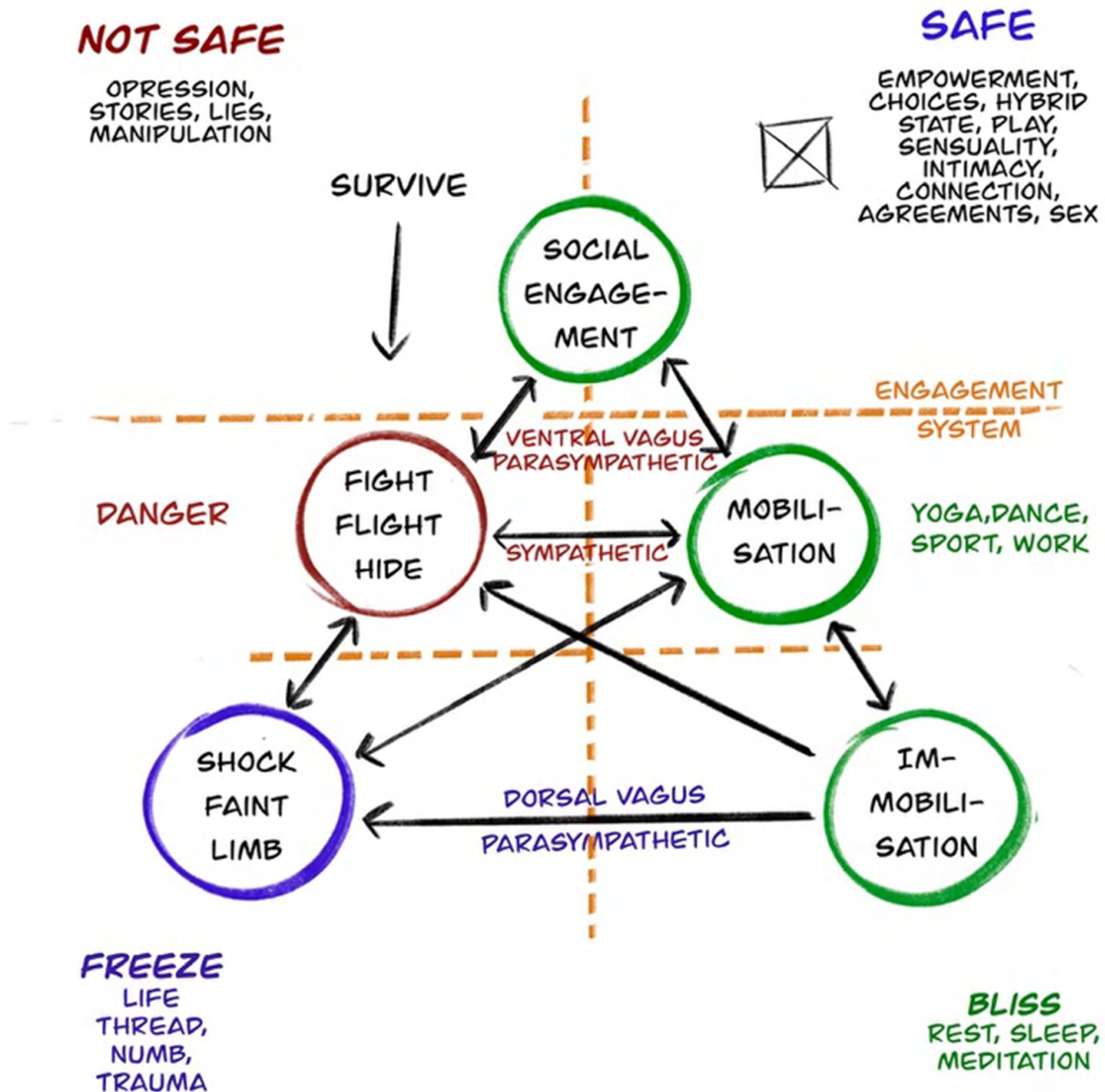


Diagram Source: [Somatic Consent](#)

STIMULATING YOUR VAGUS NERVE FOR BETTER MENTAL HEALTH

As we discussed in a previous ReCharge installment, the ventral vagal network runs upward from the diaphragm area to the brain stem, crossing over nerves in the lungs, neck, throat, and eyes. Actions involving these parts of the body — including deep breaths, gargling, humming, or even social cues like smiling or making eye contact with someone — send messages to the brain that it's okay to relax.

Dr. Ruth Lanius, Professor of Psychiatry and Director of the Post-Traumatic Stress Disorder research unit at the University of Western Ontario, says activating the ventral vagus nerve also activates the **prefrontal cortex**: *the part of the brain that deals with logic*. Calming yourself allows you to think more clearly, process difficult circumstances, and reduce stress.³

According to Jordan Fallis, adapted by the University of Ottawa, here are some ways to stimulate your vagus nerve: ⁴

1. Cold Exposure

Acute cold exposure has been shown to activate the vagus nerve and activate cholinergic neurons through vagus nerve pathways. Researchers have also found that exposing yourself to cold on a regular basis can lower your sympathetic *Fight or Flight* response and increase parasympathetic activity through the vagus nerve. Try finishing your next shower with at least 30 seconds of cold water and see how you feel. Eventually,

try working your way up to longer periods of time. You can also ease yourself into it by simply sticking your face in ice-cold water.

2. Deep and Slow Breathing

Deep and slow breathing is another way to stimulate your vagus nerve. It's been shown to reduce anxiety and increase the parasympathetic system by activating the vagus nerve. Most people take about 10 to 14 breaths each minute. Taking about 6 breaths over the course of a minute is a great way to relieve stress. You should breathe in deeply from your diaphragm. When you do this, your stomach should expand outward. Your exhale should be long and slow. *This is key to stimulating the vagus nerve and reaching a state of relaxation.*

3. Singing, Humming, Chanting and Gargling

The vagus nerve is connected to your vocal cords and the muscles at the back of your throat. Singing, humming, chanting and gargling can activate these muscles and stimulate your vagus nerve. This has been shown to increase heart-rate variability and vagal tone.

4. Probiotics

It's becoming increasingly clear to researchers that gut bacteria improve brain function by affecting the vagus nerve. In one study, animals were given the probiotic *Lactobacillus Rhamnosus*, and researchers found positive changes to the GABA receptors in their brain, a reduction in stress hormones, and less depression and anxiety-like behaviour. The researchers also

concluded that these beneficial changes between the gut and the brain were facilitated by the vagus nerve.

5. Meditation

Meditation is relaxing and can stimulate the vagus nerve and increase vagal tone. Research shows that meditation increases vagal tone and positive emotions, and promotes feelings of goodwill towards yourself. Another study found that meditation reduces sympathetic *Fight or Flight* activity.

6. Omega-3 Fatty Acids

Omega-3 fatty acids are essential fats that your body cannot produce itself. They are found primarily in fish and are necessary for the normal electrical functioning of your brain and nervous system. Researchers have discovered that omega-3 fatty acids increase vagal tone and vagal activity.

7. Exercise *(Doesn't it seem like exercise is the cure to almost everything?)*

Exercise increases your brain's growth hormone, supports your brain's mitochondria, and helps reverse cognitive decline. It has also been shown to stimulate the vagus nerve, which may explain its beneficial brain and mental health effects. Many brain health experts recommend exercise as their number one piece of advice for optimal brain health. See this week's [ReFresh](#) for the recent WHO guidelines on recommended physical activity!

8. Massage

Research shows that massages can stimulate the vagus nerve and increase vagal activity and vagal tone. The vagus nerve can

also be stimulated by massaging several specific areas of the body. Foot massages (reflexology) have been shown to increase vagal modulation and heart rate variability, and decrease the *Fight or Flight* sympathetic response.

9. Socializing and Laughing

Socializing and laughing can reduce your body's main stress hormone, likely because they are stimulating the vagus nerve. Researchers have discovered that reflecting on positive social connections improves vagal tone and increases positive emotions. Laughter has been shown to increase heart-rate variability and improve mood.

10. Harness Anxious Thoughts

This brings us full circle to identifying your triggers and finding ways to return to our safe state! *The story you tell yourself about your stressors can dictate how your body responds.* How you interpret your situation, and the intensity of the danger, impacts your potential for chronic stress. If you know external stressors aren't going to change anytime soon, it's important to minimize your perception of the threat by shifting how you respond mentally.³

For instance, rather than thinking about social distancing as being stuck in your house indefinitely, think about it as a way to contribute to public health, and an opportunity to slow down. Directing your thoughts in a more hopeful direction could cause the brain to send messages through the vagus nerve, triggering calm in all the organs and systems along the way.

If you're actually safe in the present moment but your triggers make your body feel like it's threatened, grounding can calm those perceived threats. Use your five senses. Going outside, listening to birds, and smelling flowers are all simple '**grounding**' activities, which can help activate the ventral vagus nerve. Essentially, these things bring your body back to the present moment, which may feel safer to your nervous system than the potential scenarios of the future.

This is why we identified our glimmers along with our triggers. Remember to engage your specific glimmers as these will help you regulate your body back to a safe (*Rest & Digest*) state, and enable you to experience more joy and social connection in life.

Take control of your body and mind. You have the power to do so. As we have learned in ReCharge, understanding our triggers and seeking our glimmers can help bring us back to a regulated, safe state. Also, we can stimulate our vagus nerve and send a message to our body that it's time to relax and de-stress, which leads to long-term improvements in mood, well-being and resilience.

■ For more information, [check out this article](#) on cognitive reframing!

We wish you a warm, safe and rejuvenating holidays. ReCharge will recommence January 8. See you in the new year!

Sources

¹ Somatic Consent, somaticconsent.com/free-introduction-handbook

^{2, 4} Ashley Abramson (2020) "If There Ever was a Time to Activate your Vagus Nerve, It Is Now" *Medium*, elemental.medium.com/if-there-was-ever-a-time-to-activate-your-vagus-nerve-it-is-now-2227e8c6885b

³ Jordan Fallis (adapted by University of Ottawa), sass.uottawa.ca/sites/sass.uottawa.ca/files/how_to_stimulate_your_vagus_nerve_for_better_mental_health_1.pdf



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