



Did you know that you have

a wandering nerve in your body that is

the boss of your nervous system?

Did you know that inflammation, and the ability to bond, and go to the bathroom is directly influenced by this nerve function?

In functional medicine, research now shows that this nerve may be a missing link to treating chronic inflammation, and new medical technologies are creating a field of treatment using vagal nerve stimulation that leaves the use of medication in the dust.

If you are perfectly healthy, you might be asking, how does this affect me? The truth is that, **vagal nerve function** is important to everyone in this day and age. Even if you are incredibly healthy, it is possible to lower your stress levels rapidly and operate with more consistent energy with high **vagal tone**.

/Source: The New York Times Magazine

What is the Vagus Nerve?

This nerve is known as the "wandering nerve" specifically for its wide reaching effects as one of the 12 pair of cranial nerves within the sensory somatic nervous system. The 10th cranial nerve travels down the neck, across the chest and through the abdomen.

This nerve carries information to and from the brain regarding the function of our organs, most specifically the digestive tract, stomach and intestines, lungs, heart, spleen, liver and kidneys. In the brain the vagus nerve effects anxiety and depression and new science suggests that the vagal nerve may also be connected to receptor networks for oxytocin, the neurotransmitter involved in feelings of safety and trust.

Vagus Nerve effects

- Stress levels and hormone function by influencing the HPA function (hypothalamus/pituitary/adrenal axis)
- Digestion Increases stomach acidity, stimulates the migrating motor complex and helps with digestive enzyme production
- **Heart** Stabilizes heart rate variability and blood pressure
- Blood sugar levels Stimulates blood sugar balance in pancreas
- Gall bladder function Controls bile in Gall Bladder to help break down fats
- **Kidney function** Promotes water balance in the kidneys
- **Bladder function** Controls voiding of urine
- Spleen function helps to reduce inflammation
- Sexual function Influences fertility and sexual pleasure

/Source: NCBI

Vagal nerve stimulation has been shown to improve conditions such as:

- Small Intestinal Bacterial Overgrowth (SIBO)
- Anxiety
- Obesity
- Migraines
- Alzheimers
- Leaky gut
- Mood disorders
- Heart disease
- Cancer

Signals that your vagal tone is weak

- Slow digestion Your migrating motor complex moves food throughout the intestines with wave like muscular contractions. When vagal tone is weak, so are the peristaltic contractions ending in slow digestion.
- Acid reflux or GERD, bloating or constipation.
- Inability to relax, trust and connect.
- Heart palpitations
- Insomnia
- Lack of a gag reflex



1. Cold thermogenesis

If you are a biohacker or have read some of the work of the biohackers of this day and age, (Dave Asprey, Wim Hoff and Dr Jack Kruse to name a few), cold thermogenesis is probably something you are aware of or have tried. The beauty of cold thermogenesis is that acute cold exposure will stimulate the vagus nerve. Research shows that your sympathetic system (fight or flight) decreases when your body adjusts to cold while your parasympathetic system increases. This leaves you feeling very relaxed and refreshed.



If Wim Hoff can sit in deep meditation on an ice cap in the north pole in nothing but underwear, you can do it too, but start very slowly! One easy way to start is to simply dunk your face into ice cold water for a vagal tonifying experience. It is always smart to gradually increase your exposure to the cold so as not to overdue the exposures effects. If you are feeling bold, get into a cold shower for at least 30 seconds to stimulate cold thermogenesis.

If you are interested in exploring this further,

Dave Asprey covers this topic in his latest bestseller "Headstrong".

For those not quit as brave here is another option:

Wash your face with cold water

A splash of cold water does seem to stimulate the vagus nerve. Whenever your body is required to adjust to the cold, your fight-or-flight (sympathetic) system declines and your rest-and-digest (parasympathetic) system increases. (1) In other words, any kind of sudden cold exposure will increase vagus nerve activation. You can achieve this by either dipping your face in cold water or take a cold shower.

2. Breathe

Deep breathing can be used to stimulate your vagus nerve by promoting physiological balance (homeostasis) within your autonomic nervous system. It also effects your HRV (heart rate variability) favorably. While there are many yogic breathing techniques, one of my favorite ways to stimulate vagal tone is by breathing in to the count of 5, holding to the count of 5, breathing out to the count of 5 and waiting to the count of 5 before breathing back in. **Rhythmic breathing** such as this will stimulate your parasympathetic nervous system and lower stress levels while also stimulating your vagal tone.

3. Probiotics

Also known as "**modulators of the microbiota**", certain probiotics can improve the feedback loop of the vagus nerve and the gut/brain axis.

Strains such as **L Rhamnosus** has been shown in studies to have anti depressant-like effects and influence GABA receptors which are calming to the parasympathetic nervous system and are mediated by the vagus nerve.

Research has also found that **bifidobacterium longum** normalized BDNF (brain derived neurotropic factor) and anxiety-like behavior in mice by acting through the vagus nerve.

/Source: NCBI | NCBI



4. Stimulate the gag reflex

It has been said that **the gag reflex** is like doing push ups for your vagus nerve. This practice is super easy to do at night before bed. After brushing teeth at night, implement an ayurvedic tradition of **scraping your tongue with the spoon**. If you start at the back of the throat you should be able to stimulate a gag reflex. Tongue scraping has a dual action. The first stimulates your vagal tone and the second action is viewed in Ayurveda as a means to clean the digestive system by scraping "amma" or waste off the tongue. This practice "kills two birds with one stone", if you pardon the expression.

/Source: NCBI

5. Acetylcholine

The neurotransmitter **Acetylcholine** is the main vagal nerve neurotransmitter and stimulates muscle contractions in the parasympathetic nervous system. Acetylcholine also decreases the release of inflammatory cytokines. **Nootropics** such as **huperzine** improve the sensitivity of the acetylcholine receptor. **Alpha GPC** is well known for its ability to increase acetylcholine.

/Source: NCBI

6. Auricular acupuncture

Ear acupuncture has been shown to stimulate the vagus nerve, increase vagal activity and vagal tone and can help treat neurodegenerative disease.

Auricular acupuncture is able to help support vagal homeostasis by stimulating the autonomic nervous system.

Electroacupuncture is also used in clinical acupuncture as a means to stimulate and strengthen vagal tone.

/Source: NCBI



While the studies also reveal that people are genetically predisposed to different levels of vagal tone, with consistent practice, you can alter your tone to some degree using the following methods.

Humming, Speaking, Laughter

You know all of those people you used to think were "new age" because they would sit quietly and repeat the "OM" sound? Well, it turns out they are on to something. Because the vagus nerve is connected to your vocal cords, systematic humming can stimulate the nerve

Speaking

Likewise, people who speak more are more likely to be able to raise their vagal tone as talking is done through the vocal cords. Singing and laughter in general will also do the trick

Laughter: Laughing reduces the muscle tension in the face, neck and diaphragm that can cause bottlenecks in vagus signals. It also requires diaphragmatic movements and has been shown to improve vagal tone. Just more proof that laugher really is the best medicine.

8. Yoga

Research shows that yoga, along with breathing practices, can significantly increase your vagal tone.

9. Meditation

According to a 2010 study, people who meditate regularly and think more positive thoughts tend to have better vagal tone.

Why a higher vagal tone is good

Apart from being able to relax faster after stress, people with a high vagal tone have overall better functioning internal systems including:

- Better blood sugar regulation
- Decreased risk of stroke and cardiovascular disease
- Generally lower blood pressure
- Better digestion due to proper production of digestive enzymes
- Fewer migraines
- Less depression
- Less anxiety (they naturally deal with stress better)

What scientists have discovered is that the vagus nerve constantly monitors your gut microbiome to determine if there are any pathogenic organisms, and if so, it initiates a response that then controls any inflammation that results from these foreign organisms, which can affect your mood, your stress levels (and your ability to cope with the stress) and your overall inflammation levels.

Wishing you vibrant health....body, mind and spirit

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