# Harnessing the Healing Power of The Nervous System, Brain and Heart

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**NEW EARTH VISIONING PROJECT** 

## How do the brain, nervous system and heart relate to our mission?

1. The health and functioning of these 3 systems and how they interact with each other is foundational to the:

- regulation of emotions
- physical health
- neurotransmitters and mood
- focus and attention
- our ability to move forward in life
- be in relationships
- everything about how we function in the world

2. Emotion-raising techniques done on top of a dysregulated nervous system, unresolved trauma, acquired brain injury or low heart rate variability can be futile and frustrating.

## Let's not spin our wheels!

## My goal for this presentation and what we'll discuss:

- Gain enough understanding of these systems to recognize in yourself whether or not you can benefit from the modalities discussed.
- Techniques you can use for past injuries or to handle current stressors.
- This presentation is a jumping off point for you to learn how to bring yourself back into harmony

#### We'll discuss:

- My health journey and the role these methods have played
- Look at each system at a high level
- What can go wrong and how issues can manifest
- Ways to heal and stay in harmony

# Brief Overview of these systems and what they do for us - page 1 Brain

Brain stem

- pre-verbal, sense of safety, proprioception where am I in space?
- where cranial nerves connect to rest of body 10th is key Vagus Nerve
- involved in many automatic functions breathing, heart rate, body temperature, circadian rhythm, digestion, swallowing

## • Limbic System

- memory
- the emotional brain responsible for all emotional reactions
- creation of neuro-cocktail of chemicals and hormones
- seat of the autonomic nervous system

## **Brief Overview of these systems and what they do for us – page 2**

#### **BRAIN**, continued

#### **Neo-Cortex**

- accounts for 76% of the volume of the human brain
- higher order brain functions such as language
- reasoning, rationality, analysis
- creativity, imagination
- sensory perception and discrimination
- cognition planning complex behavior

### **Brief Overview of these systems and what they do for us – page 3**

### **Nervous System**

### Sympathetic Branch

- Fight/Flight prioritizes bodily functions
- Prepares body for stress related activities or activities requiring high degree of alertness such as exercise, sex, giving a presentation
- Dilate pupils and bronchi, secretes adrenaline, increases heart rate, converts glycogen to glucose for fuel, stops digestion

#### Parasympathetic Branch - 2 functions

- Freeze when system is overwhelmed and you can't fight or flee
- Rest & Digest = healing mode

75% of all parasympathetic fibers come from the Vagus Nerve

• slows down heart rate • stimulate digestion • inhibits adrenaline

## Brief Overview of these systems and what they do for us - page 4

#### **The Heart**

Heart Rate Variability (HRV) - the variation between heart beats If variation is low - indicates high sympathetic nervous system activity If variation is high - indicates high parasympathetic activity The ability to switch gears - indication of resilience

#### Example of impact of HRV

- Low variability associated with worsening depression and anxiety
- High variability associated with stress resilience and high cardiovascular fitness and health

#### We can improve HRV

Health and functioning of the vagus nerve, which runs through the heart, has direct impact on HRV

## What Can Go Wrong?

- Brain structure, nervous system and vagus nerve can all become structurally changed, rewired, or damaged
- Childhood trauma can start in utero ACE study - Adverse Childhood Experiences - score 1-10
- **PTSD** accidents, surgery, witness a tragedy, part of traumatic event
- Chronic Stress and Low Stress Resilience
- Acquired Brain Injury chemical, mold or other environmental exposure
  - Infection
    bacterial
    viral

## **Limbic System Impairment**

## Since seat of autonomic nervous system affects everything we're discussing. let's focus on it

### Symptoms may include:

- Chronic inflammation
- •Poor memory
- •Brain fog
- Digestion issues
- Lowered energy levels
- •Numerous sensitivities chemicals, environmental, food, EMF, electrical

•Chronic pain

- •Depression and/or anxiety, panic attacks
- •Poor detoxification, absorption of nutrients and cellular communication
- •Eating disorders
- •Heart arrhythmias, palpitations, tachycardia
- •Immune system dysfunctions allergies, autoimmunity, skin conditions, latent and chronic infections

## What Can We Do About It?

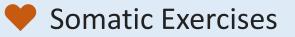
## NeuroPlasticity

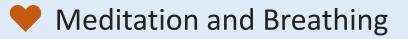
Modalities that utilize neuroplasticity

DNRS - Dynamic Neural Retraining System

HeartMath for HRV

Vagus Nerve





## Writing Exercise

Building awareness of patterns and neural pathways is the first step in a conscious neuroplasticity process. DNRS calls these Pathways of the Past - POPs

## **Questions to consider:**

- 1. What are the repetitive thoughts you think in response to stress triggers?
- 2. What are the triggers that create discord and disharmony? What pulls you out of coherence?
  - You feel like you're spinning the "spun up" feeling
  - Heart rate goes up
  - Anger, frustration, depression, anxiety
  - A repetitive thought loop begins
- 3. What is your go-to response fight, flight or freeze? What are the circumstances for each type of response?

4. Energy goes where attention flows - where does your attention go when you're under stress?

## Soul Work

1. Of the patterns and neural pathways you identified in the writing exercise - pick one or two this week and catch yourself when you do them. Interrupt it and redirect.

- Focus on something different
- Replace the thought or reaction with your desired response to begin creating a new neural pathway

Remember: "Neurons that fire together, wire together."

- 2. Choose one of the practices we discussed or practiced and work with it this week. Notice any shifts. They may be subtle at first so be patient.
  - Orienting
  - Grounding
  - HeartMath Quick Coherence
  - Open Focus meditation or in the moment pay attention to space

3. Journal on what you learned about your brain, nervous system and heart. What next steps are you led to take to improve your system's coherence, stress resilience, and capacity?

## **RESOURCES** page 1

#### Neuroplasticity

Dr. Norman Doidge - Neuroplasticity researcher and author <a href="https://www.normandoidge.com">https://www.normandoidge.com</a>

Documentary - "The Brain That Changes Itself" https://www.youtube.com/watch?v=bFCOm1P\_cQQ&t=8s

#### **Impaired Limbic System Rehabilitation**

Dynamic Neural Retraining System https://retrainingthebrain.com https://www.youtube.com/user/SaturdayMornFunhouse

Gupta Program https://www.guptaprogram.com

#### **Open Focus Meditation**

https://openfocus.com

HeartMath Institute - for improving heart rate variability, heart-brain coherence, vagus nerve functioning <a href="https://www.heartmath.org">https://www.heartmath.org</a>

## **RESOURCES - page 2**

**Trauma Healing** Somatic Experiencing - somatic therapy based on Peter Levine's work <u>https://traumahealing.org/about/</u>

Attachment Styles https://dianepooleheller.com/attachment-styles/

#### Adverse Childhood Experiences (ACEs) Study

https://www.cdc.gov/violenceprevention/aces/index.html?CDC\_AA\_refVal=https%3A%2F%2Fwww.cdc.gov% 2Fviolenceprevention%2Facestudy%2Findex.html

https://acestoohigh.com/got-your-ace-score/

#### **Vagus Nerve**

Self-healing exercises

https://www.amazon.com/Accessing-Healing-Power-Vagus-Nerve/dp/1623170249

https://www.heartmath.org

### **RESOURCES - page 3**

Polyvagal Theory https://www.stephenporges.com

Brain Rewiring https://drjoedispenza.com