Applied Polyvagal Theory and the Integration of Yoga into Psychotherapy.

DR. ARIELLE SCHWARTZ

II JORNADAS INTERNACIONALES DE TRAUMATERAPIA

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Finding Hope in a Hurting World

- Recall a time of connection, hope, a feeling of coming home to yourself
- How did this moment transform you?
- Now reflect upon what this moment and why coming home to yourself was important?
- How was this highlighted in relationship to your times of struggle, your own times of darkness, suffering, or pain?
- What arises within you as you holding these contrasting experiences together?
- How does this awaken you to your true nature, your wisest self, your soul's purpose?

2

Yoga

You are Already Whole

The practices are only a reminder of the truth of who you are.

The invitation is for you to come home to your true nature.

3

Objectives

- Apply polyvagal theory with practices for mind-body health
- Evaluate your client's nervous system states as related to autonomic cues of stress and signs of safety
- Demonstrate grounding and orientating techniques that increase clients' resources

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"Health is not defined by the absence of disease; rather, it is recognized by the presence of well-being."
~World Health Organization

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Resolved Stress Response

- Exposure to a stressful (or traumatic) event
- Increase in cortisol
- Mobilization Response: (fight/flight): Feel, Move, Run, Protect, Shake
- Stress activated response systems achieve homeostasis (cortisol levels return to baseline)
- Healthy Immobilization Response: Rest, Regeneration, Renewal of the body

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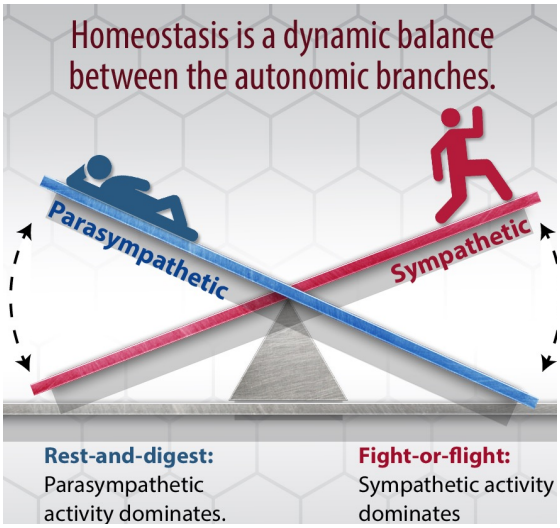
Homeostatic balance



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Unresolved Stress Response

Stress or Trauma exposure → Increased Cortisol → Blocked Mobilization → Defensive action remains

- Exposure to a stressful (or traumatic) event
- Increase in cortisol
- Incomplete Mobilization (Thwarted Instincts)
  - Remain in sympathetic dominant state (fight-flight)
  - Immobilization into a parasympathetic dominant state (fatigue, faint)
- Body and mind do not experience resolution & it feels as if threat is ongoing

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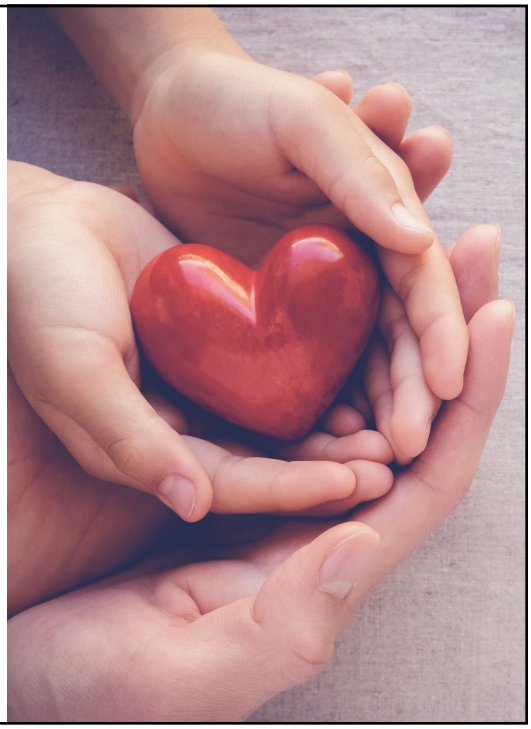
Dysautonomia (Bauchaine, 2015)

Stress and trauma can cause dysregulation of the autonomic nervous system or dysautonomia with symptoms of:

- Increased vulnerability to anxiety & depressive symptoms
- Reduced capacity to recover from stress
- Fatigue & Brain fog
- Sleep disturbances (insomnia & hypersomnia)
- Low tolerance for exercise
- Lightheadedness or dizziness (Postural Orthostatic Tachycardia Syndrome, POTS)



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Applied Polyvagal Theory: A Transdiagnostic Approach to Care

- We are addressing the physiological roots that underlie a wide range of physical and mental health conditions including mood, anxiety, and traumatic stress disorders.
- Applied polyvagal theory allows therapists and clients to compassionately understand and treat the symptoms that arise from the imbalances within the autonomic nervous symptom.
- Treatments may be more effective when they offer psychosensory interventions that target both the psychological and physiological factors that worsen symptoms (Ruden, 2019)
- Psychosensory interventions: havening touch technique, EMDR therapy, therapeutic tapping, neurofeedback, and yoga

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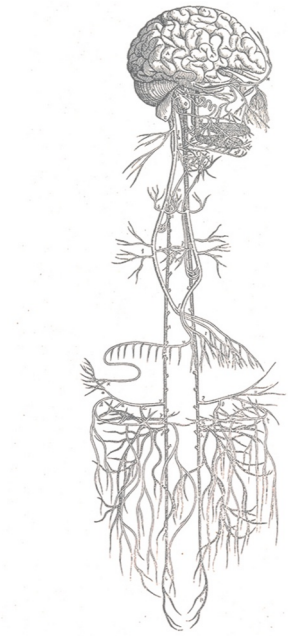
THE VAGUS NERVE

- Cranial Nerve X: The "wandering nerve" connects to eyes, ears, mouth, larynx & pharynx in throat, heart, lungs, digestive organs
- Bi-Directional Information highway: 80% Afferent (from body to brain)
- The Power Cord to the Computer–the Brainstem



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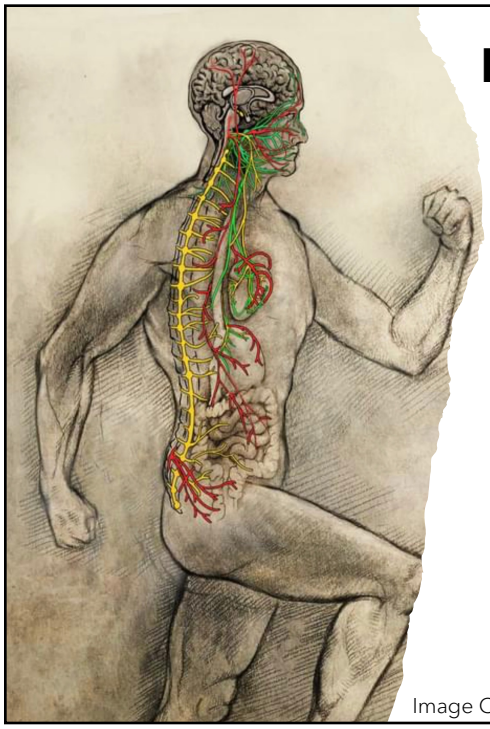

Polyvagak Theory (Porges, 2022)

- Myelinated Ventral Vagal Circuit, the "Social Engagement System"–Safe, Social, and Connected. Above Diaphragm.
- Dorsal Vagal–Immobilization. Below diaphragm, Facilitates "rest and digest" when you feel safe. When unsafe initiates "collapsed immobilization" or a "faint" response.

Image Credit: Gabriel Kram

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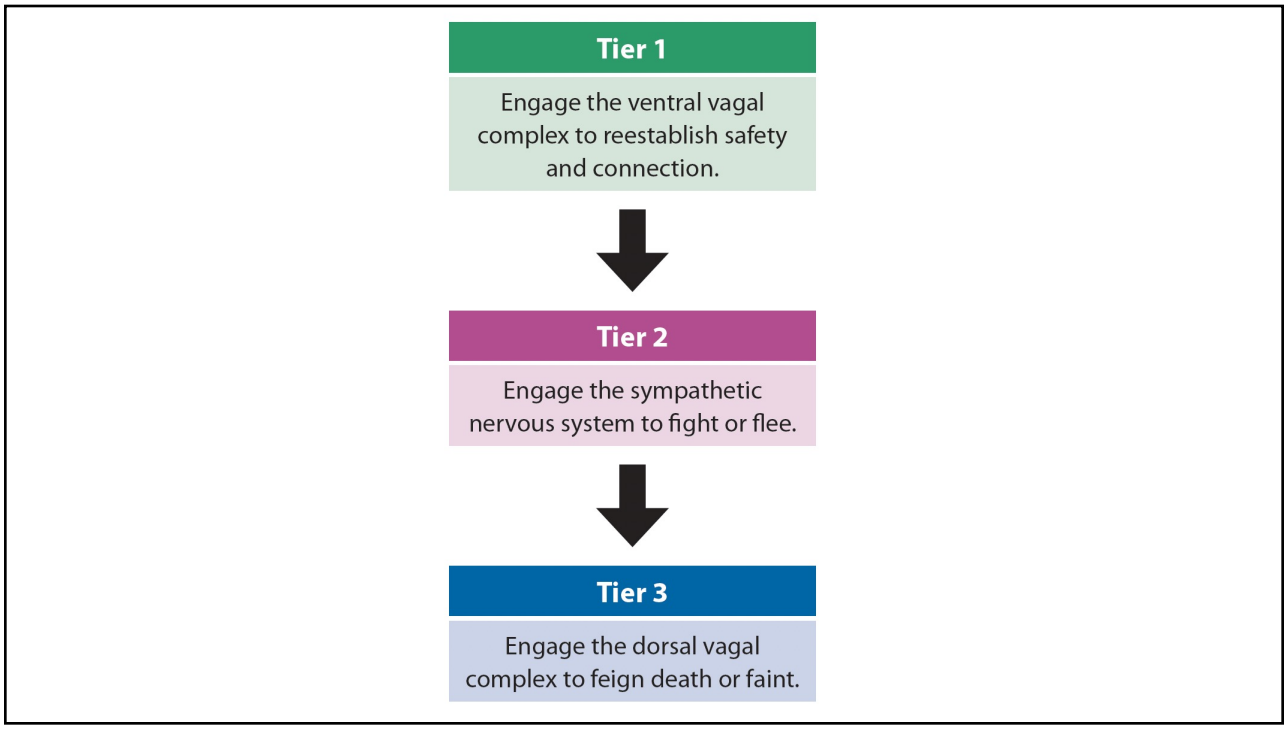
Tier 1
Engage the ventral vagal complex to reestablish safety and connection.
Tier 2
Engage the sympathetic nervous system to fight or flee.
Tier 3
Engage the dorsal vagal complex to feign death or faint.

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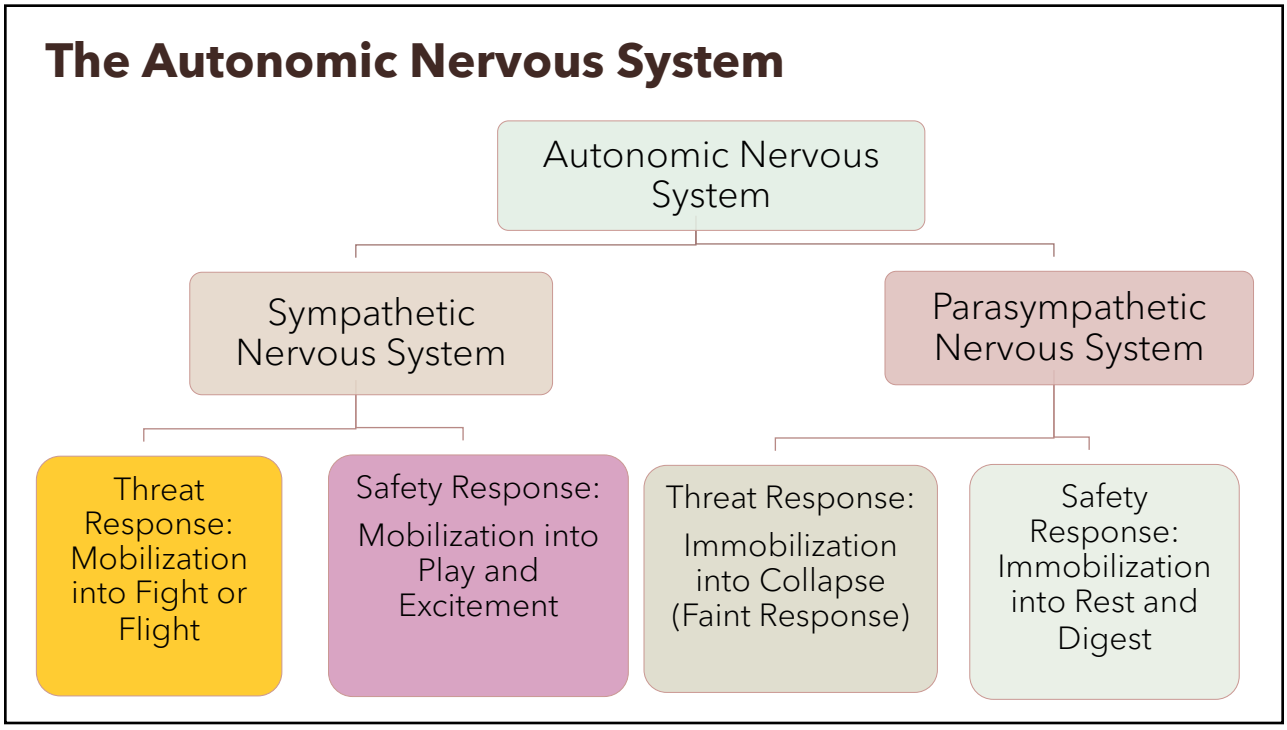
The Autonomic Nervous System
Autonomic Nervous System
Sympathetic Nervous System
Parasympathetic Nervous System
Threat Response: Mobilization into Fight or Flight
Safety Response: Mobilization into Play and Excitement
Threat Response: Immobilization into Collapse (Faint Response)
Safety Response: Immobilization into Rest and Digest

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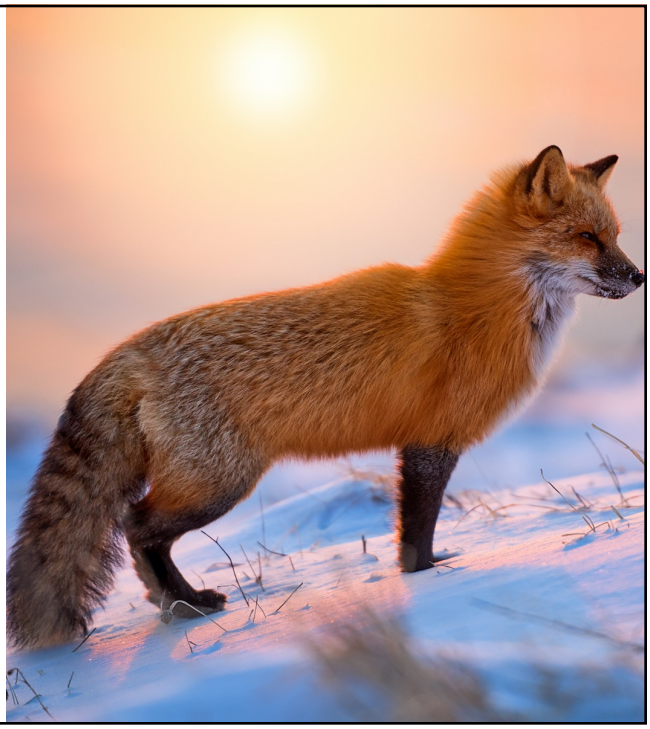
NEUROCEPTION

- Neuroception: nervous system detects whether situations or people are:
  - Safe
  - Dangerous
  - Life threatening
- Nervous system find cues:
  - In your body
  - In your external the environment
  - In your relationships
- Neuroception occurs without conscious awareness
- Conscious Perception of Neuroception
  - Notice interoceptive cues of threat or safety
  - Is the response that I am having accurate?
  - Engage exteroceptive awareness to orient to cues in your external environment of threat or safety. Identify neuroceptive cues of safety.



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Body Perception Questionnaire (BPQ, Porges, 1993)

How often you are aware of these characteristics or sensations on a 5-point scale from never to always. Sample items:

- Swallowing frequently
- Dry mouth
- Muscle tension in arms and legs
- Muscle tension in my face
- Stomach pains, distension, or bloatedness
- Palms sweating
- Grinding my teeth
- General jitteriness
- Difficulty focusing
- How hard my heart is beating
- Shortness of breath

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Neuroception of Psychological Safety Scale (NPSS, Morton et al., 2022)

Rate how well the following statements descript your feelings over the past week using a 5-point Likert scale from 1 disagree to 5 strongly agree. Three categories, Social Engagement, Compassion, & Bodily Sensation. Sample items:

- I felt accepted by others
- I felt understood
- I felt respected
- I felt comforted by others
- I didn't feel judged by others
- I felt able to empathize with other people
- I felt able to comfort another person
- I felt compassion for others
- I felt caring
- My heart rate felt steady
- Breathing felt effortless
- My voice felt normal
- My body felt relaxed
- My stomach felt settled
- I felt able to stay still
- My face felt relaxed

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Mindfulness and Yoga for Trauma Recovery

Taylor et al., 2020

- Reduced autonomic sympathetic activation
- Reduced blood pressure
- Improved vagal tone–Increase heart rate variability (HRV)
- Decreased reported symptoms of PTSD
- Improved Cardiovascular Health-- Reduced blood pressure, reduced hypertension.
- Improved Endocrine System Health– Improved thyroid health, blood sugar management
- Improved Digestive System Health
- Reduced Inflammation and improvements in rheumatoid arthritis

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Benefits of Therapeutic Yoga for Trauma

Increased Distress Tolerance

- Capacity to observe experience, tolerate discomfort leads to reductions in emotional reactivity and decreases in symptoms of anxiety, panic, chronic pain, and depression (Boffa et al., 2018)

Improved Mental Outlook:

- Increased self-awareness, self-acceptance & compassion (Neff, 2022)

Enhanced Somatic Awareness:

- Proprioceptive & Interoceptive Integration (Price, & Hooven, 2018)

Exercise Induced Neuroplasticity:

- Exercise stimulates the release of dopamine, GABA, and BDNF. There is an enhanced window of plasticity immediately following movement that can allow for positive change. (Arden, 2019)

Improved Vagal Tone

- Improvements in Vagal Tone, Vagal Efficiency, and Heart Rate Variability (Bolton et al., 2020)

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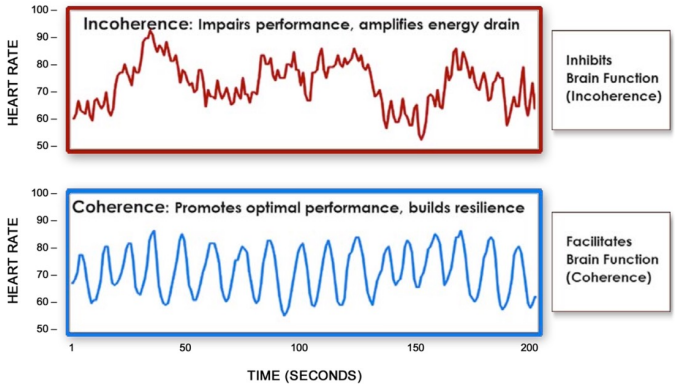
Vagal Tone and Heart Rate Variability (Bolton et al., 2020)



- **High HRV:** Improved immune system health. Reduction in anxiety, depression, PTSD symptoms. Increased capacity to handle stress with faster recovery. The physiological basis for resilience.
- **High HRV is a Coherent Nervous System State:** Better able to make decisions, handle conflicts, navigate difficult moments by noticing when you feel triggered or activated. Rather than reacting, remembering to take a mindful pause.
- "Heart rate variability (HRV) provides the best available means of measuring the interaction of sympathetic and parasympathetic tone, that is, of brainstem regulatory integrity." (van der Kolk, 2006)

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Yoga and Mindfulness Practices that Enhance HRV & Vagal Tone

- Conscious Breathing
- Postural Change & Movement
- Self-Applied Touch
- Mindfulness Meditation

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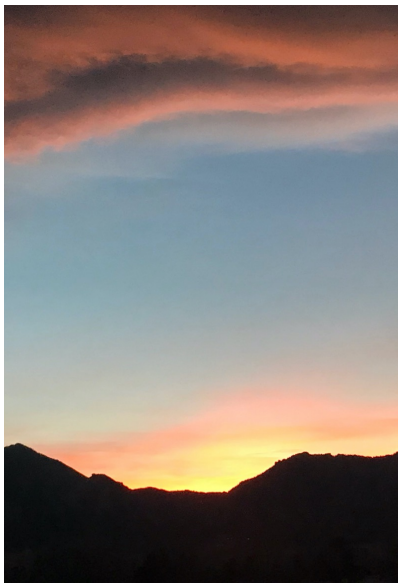
BALANCED BREATH (SAMA VRITTI)

- Stressful and traumatic situations can cause shallow breathing, holding of the breath, tightness in the chest, over-breathing, and feelings of panic.
- Breath is the fastest way to regulate ANS
  - Inhales stimulate sympathetic nervous system
  - Exhales stimulate parasympathetic nervous system.
- Balanced Breath or Sama Vritti (Resonance Frequency Breathing; Pagaduan, et al., 2019):
  - 5-count inhale
  - 5-count exhale
  - Breathing in and out of your heart as you focus on anything that brings you a genuine sense of care, warmth, appreciation, or gratitude (McCraty & Zayas, 2014)



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Baroreceptors and Vagal Efficiency (Porges, 2022)

- Vagal efficiency measures how effectively we can remove and reengage the vagal brake in response to stress
- When we remove the vagal brake, the sympathetic nervous system initiates a mobilization response through an increased heart rate. When the stress is over, reengaging the vagal brake allows us to return to a state of rest.
- Tolerating postural changes such as moving from laying down to standing is the best measure for vagal efficiency.

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Baroreceptors and Vagal Efficiency

- Postural shifts influence blood pressure receptors called baroreceptors which send signals to your brainstem to either increase or decrease your vagal tone regulating your heart rate.
- Sitting or standing up quickly temporarily decreases vagal tone through the removal of the vagal brake, which increases your heart rate and a visceral feeling of activation.
- Ideally, you re-engage the ventral vagal complex allowing you to return to a calm and relaxed state.

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Fascia and The Vagus Nerve

- The largest sensory organ
- Houses approximately 250 million nerve endings (Schleip, 2017).
- A change in any one area of the body is felt throughout the body.
- The Vagus nerve communicates changes in fascial web to brain through interoceptive and proprioceptive sensory feedback
- 3 times as many sensory neurons than motor neurons
- The connective tissue plays a key role in transmitting hormones (e.g. adrenaline, estrogen, insulin, thyroid hormones, oxytocin) and neurotransmitters (e.g. serotonin, dopamine, GABA, acetylcholine) throughout your body.
- Fascia can harden or become "sticky" which creates pain and inflammation

Image Credit: Sabrina Husain Bajakian

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Practice: Pandicular Movement

- An alternation of stretches and contractions that feel natural and good.
- Pandicular movements are deeply healing as they are the nervous system's way of waking up the sensory-motor system (Hanna, 2004).
- Healing movements reduce the buildup of chronic muscular tension and increase voluntary control over one's muscles.
- "Imagine moving like an animal just waking up from a nap." A full-body yawn.

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Therapeutic Yoga for Trauma Recovery

- The physical practice of postures in yoga. The goal is to create freedom in the body so that we feel comfortable in our own skin in both movement and stillness.
- "We don't use the body to get into the pose, we use the pose to get into the body." (Bernie Clark, yin yoga)

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Trauma Sensitive Mindfulness (Treleaven, 2018)

- Trauma informed approaches to meditation, restorative (yin) yoga, and yoga nidra integrate resources into the practice such as recalling a time or place when you felt safe, at ease, or peaceful.
- Create Attentional Anchors:
  - Mudra (Hand position)
  - Mantra (Intention, Sankalpa)
  - Drishti (Focused gaze)
  - Pranayama (breath control & awareness)

- When a ship is anchored in the harbor it is protected from the winds or storms that are out on the open seas. Likewise, we can anchor ourselves within a sense of safety knowing that we can return to our peaceful place or mantra at any time during the practice.

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Practice: Settling into Stillness: Gyan Mudra

- Sanskrit word Gyan (*jnana)* and the English word *know* both have etymological roots in the Greek word *gnosis*.
- Gently touch or slightly tuck the tip of your index finger under to the tip of your thumb while keeping the rest of your fingers extended.
- Explore how it feels to rest your hands on the tops of your thighs with your palms upward or downward.
- Turning your palms up might feel uplifting, as if you were open to receiving.
- Turning your palms down might feel grounding or comforting.
- Notice if one or the other feels better for you today.
- Once you arrive in your version of this mudra, simply notice how subtlety of this shape impacts the quality of your mind, body, breath, emotions, energy

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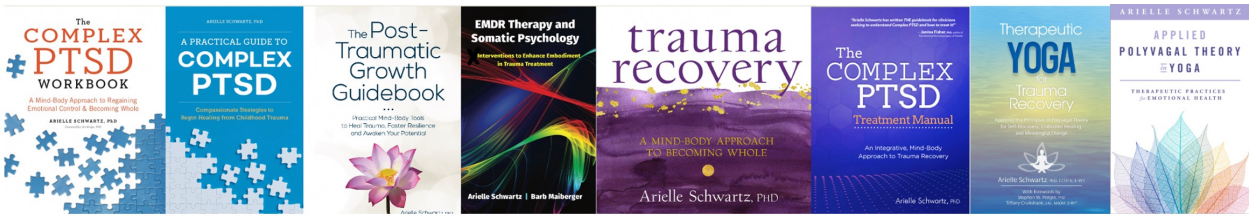
Resources:



Website: www.drarielleschwartz.com
Email: info@drarielleschwartz.com
Facebook: Dr. Arielle Schwartz
YouTube: Dr. Arielle Schwartz

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