Herbs and Somatic Practices for Stress, Trauma and Resilience
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Herbal medicine is one path back to the body of the earth.

In relationship with the earth-body we may find belonging and safety. In time, we feel the same safety and sense of homecoming in our own bodies, minds and hearts.
What do we mean by stress and trauma?

*Trauma is in the nervous system, not in the event (or our stories about it).*
Potential Impacts of Chronic Stress and Trauma on Health and Wellbeing

- overall, disruption of adaptability and stress resistance; increased vulnerability to chronic disease

- reduced emotional resilience and optimism, neuropsychiatric symptoms/dis-ease (anxiety, depression, panic, PTSD), maladaptive neural networks and function

- alterations in overall endocrine function, affecting sexuality, fertility, thyroid health and metabolism (e.g. diabetes)

- digestive dysfunction, hyperpermeability and dysbiosis

- chronic inflammation (as in CVD, auto-immunity, atopy) and/or immunosuppression, cancer

- maladaptive epigenetic alterations, which may be heritable
The Regulatory Process of the Autonomic Nervous System (Sympathetic and Parasympathetic)

Activation – Deactivation Cycles

Sympathetic
Working, Excitement, Running

Parasympathetic
Relaxing, Digesting, Sleeping

Range of Resiliency

Slide text courtesy of Somatic Experiencing Trauma Institute / TraumaHealing.org
HPA Axis

- Hypothalamus
  - CRH
  - Corticotropin Releasing Hormone
- Anterior Pituitary
  - ACTH
  - Adrenocorticotropic Hormone
- Adrenal Cortex
  - CORT
  - Cortisol

Negative Feedback
Mind-body nexus

The HPA axis acts interdependently with the nervous system to maintain many baseline functions, as well as respond to stressors.
The Vagus Nerve – Mind-Body Integrator

The vagus nerve is an important player in the parasympathetic nervous system, which mediates much of the communication between the gut, brain, and immune system, as well as the heart. It is responsive to the microbiome—our inner landscape—and to external stimuli, like the forest.

Vagal tone is measured through Heart Rate Variability (HRV). Higher tone (and HRV) is a measure of nervous system (and whole organism) resilience.
During perceived emergencies, the CNS, ANS and HPA work in tandem to carry out four important survival functions:

• Fight
• Flight
• Freeze
• Social Engagement
Understanding Stress and Trauma through Animal Biology and Behavior

Overwhelmed or threatened, animals go through predictable stages of responding to danger. Humans are animals, too…

In order to optimize chances for survival, the body:

- **Activates** implicit, hardwired survival sequences
- **Mobilizes** high levels of energy to defend itself
- **Shuts-down** unnecessary bodily functions

After threat has passed, animals return to normal functioning by:

- **Discharging** survival energy
- **Integrating** excess activated energy

Slide text courtesy of Somatic Experiencing Trauma Institute / TraumaHealing.org
Neurotransmitters released in response to our emotions and thoughts impact both the HPA and SAS (sympatho-adrenal system) cascades:

- 5-HT and NE stimulate hypothalamic CRF release
- GABA and opioids inhibit CRF release

CRF also acts as a neurotransmitter itself, inducing conditioned fear and aversion, enhancing stress-induced freezing, decreasing food intake and disrupting sexual behavior and sleep.
Normal Stress Response, aka HPA activation

Diagram showing the hypothalamus, pituitary, adrenal cortex, and immune system, with arrows representing neurotransmitters and neuropeptides.
Our understanding of stress is rooted in Hans Selye's General Adaptation Syndrome (1950s)

Alarm Stage
SNS arousal, including emotional arousal defense mobilization - fight/flight/freeze

Stage of Adaptation/Resistance
further defense mobilization - fight/flight/freeze attempts to adapt, return to calm, less activation (PNS)

Stage of Exhaustion (or Recovery)
if exhaustion, break down of homeostasis is reached
General Adaptation Syndrome

Performance

Stress levels

Inactive → relaxed → optimum stress → overload → burnout

ALARM → RESISTANCE / ADAPTATION → EXHAUSTION

RECOVERY

Performance

Fatigue

“distress”

“eustress”

Exhaustion

Anxiety, panic, anger, depression, fear
Modern Concepts of Stress Response: Allostasis--Stability through Change

Perceived Stress (threat, no threat) (Helplessness) (Vigilance)

Behavioral Responses (fight, flight or freeze)

Physiological responses

Major Life Events

Environmental Stressors (work, home)

Trauma, Abuse

Individual Differences (genes, development, experience)

Cognitive Appraisal Theory suggested that our perception of stressors as a positive challenge vs. a threat attenuates our response (Lazarus, 1993)

Allostasis

Adaptation

Allostatic Load

concept developed by McEwen and Stellar, 1993

Image based on the work of McEwan, 1998
Figure 2.2  Allostatic Load

A. Behavior: Interpretation or Reaction to Challenge

- Social Content
  - Social Status
- Stimulus
- Physical and Psychological Challenges

- Genetic Predisposition
  - Developmental Stage
  - Gender
- Processor
- Learning Individual and Social History

- Not Threat
  - No Stress
  - Response Available
    - Low-Cost Response
    - High-Cost Response
      - Thwarted Response
      - Helplessness (Anxiety)
      - Aggression, Risk-Taking, and Self-Damaging Behavior
      - Vigilance (Anxiety)

- Threat
  - Known Source
  - Unknown Source
  - Stress

B. Biological Responses

- Individual Differences in Response Propensity, i.e., Reactivity—including Genetic Makeup, Gender, Development History

- Mediators
  - Neural
  - Neuroendocrine
- Effectors
  - Immune System
  - Cardiovascular System
  - Adipose Tissue, Muscle
- Disease Outcomes
  - Metastasis of Cancer, Viral Infections
  - Coronary Heart Disease, Sudden Death
  - Obesity, Diabetes, Hypertension
Why do we reach allostatic load?
Summary of factors contributing to neuroendocrine dysregulation, experiences of “stress”, vulnerability to trauma:

*Note how similar the causes are to the outcomes, discussed earlier.*

- extreme physiological or psychological environment or demands (poor diet, sleep, exercise, relationships, structural oppression, pollution, etc.), resulting in cortisol resistance
- mood/psychiatric dis-ease (panic, depression, substance addiction, eating disorders, etc.)
- traumatic experiences and/or early life adversity
- digestive dysfunction, hyperpermeability and dysbiosis
- chronic inflammation or immune activation, as in CVD, auto-immunity, atopy, infection, etc.
- genetic variability and gene-environment interactions
Extreme, ongoing physiological or psychological environment or demands (poor diet, sleep, exercise, relationships, structural oppression, pollution, etc.), results in cortisol resistance as negative feedback loops collapse; exacerbated by inflammation and blood sugar dysregulation.
Mood/psychiatric dis-ease (panic, anxiety, depression, substance abuse, eating disorders, etc.)

Often characterized by neurotransmitter system dysfunctions (the monoamine hypothesis says this is the “cause”, but research suggests these changes are actually symptoms):

- alterations can occur in secretion, re-uptake, or degradation of neurotransmitters (e.g. serotonin, norepinephrine and dopamine)
- receptor binding
- receptor expression
Traumatic experiences and/or early life adversity, or “insecure” attachment can lead to reduced physiological and emotional resilience and optimism, and contribute to mood dysregulation and intensified experience of stress.
GI dysfunction, hyperpermeability and/or dysbiosis
Mind-altering microorganisms: the impact of the gut microbiota on brain and behaviour

Image credit: [http://www.nature.com/nrn/journal/v13/n10/full/nrn3346.html](http://www.nature.com/nrn/journal/v13/n10/full/nrn3346.html), used with permission
Schematic of the brain–gut axis, including inputs from the gut microbiota, the ENS, the immune system and the external environment. The model includes both peripheral and central components, which are in bidirectional interactions. Bottom-up influences are shown on the right side, top-down influences on the left side of the graph. Abbreviations: ENS, enteric nervous system; HPA, hypothalamic–pituitary–adrenal; PBMC, peripheral blood mononuclear cell; SNS, sympathetic nervous system. Modified with permission from Nature Publishing Group © Irwin, M.R. & Cole, S.W. Nat. Rev. Immunol. 11, 625–632 (2011).
Chronic and systemic inflammatory conditions, e.g. cardiovascular disease, GI inflammation, auto-immunity, atopy
stress and inflammation engender and perpetuate each other...
Genetic variability and gene-environment interactions
Transgenerational genetic and epigenetic predisposition

Early Life Stress

Type: Trauma, abuse, neglect
Intensity
Duration: Acute/chronic
Previous stress
Age: Brain maturity
Gender

Short-term effects
Increased levels of stress hormones
Acute/Dynamic Epigenetic changes
Acute changes in gene expression

Long-term adaptations
Neuronal structure
Stress hormones
Stress hormone receptors
Transmitters
Transmitter receptors
Neuropeptides
Neuropeptide receptors
Stable epigenetic marks

Adapted/Maladapted Neuronal Networks

Stress inoculation
Resilience
Stress coping

Behavioral Outcome
Stress intoxication
Vulnerability
Mental disorder

Transgenerational Transmission

The orchid-dandelion hypothesis suggests variations in certain genes (e.g. the 5-HT transporter gene) may cause some to be more vulnerable to stressful environments, as well as more responsive to supportive environments, especially during childhood.

However, in vulnerability, may also be plasticity and resilience...
General Adaptation Syndrome Meets Resilience

Performance

Inactive → relaxed → optimum stress → overload → burnout

Stress levels

ALARM → RESISTANCE / ADAPTATION → EXHAUSTION

RECOVERY

RESILIENCE

“eustress” → “distress”

fatigue → exhaustion

Anxiety, panic, anger, depression, fear
Resilience

“In the context of allostasis, resilience denotes the ability of an organism to respond to stressors in the environment by means of the appropriate engagement and efficient termination of allostatic responses.”


“The brain regulates responses that allow for adaptation to challenges in the environment. The capacity of the brain and body to withstand challenges to stability can be considered as ‘resilience’. While adverse childhood experiences can have long-term negative consequences, under the right circumstances, the brain can re-enter plastic states, and negative outcomes may be mitigated, even later in life.”

How do we build resilience?
Key Actions for Stress and Resilience (based on causative factors as we understand them):

- adaptogen (regulates HPA axis and functional recovery)
- nervine (regulates NS activity, trophorestorative)
- immunomodulant, esp. anti-inflammatory
- digestive support (e.g. bitter, aromatic, vulnerary)
- prebiotic and probiotic (aka “psychobiotics”)
- circulatory stimulant and lymphatic
- mineral-rich herbs, nutrient-dense “special foods” (for specific vitamins, minerals, fats, etc.)
How to choose plants?

Differentiation of people and plants:

chaos    ->    orderly complexity
via
pattern recognition

Human patterns can be physiological, behavioral, psychological
Personality and Stress Response: Type A, B, C and D

types A-C characterized by Freidman and Rosenman, 1974
D characterized by Denollet, 1990s

Type A: competitive, desires to be recognized, longs for development and advancement, wants to achieve goals and therefore, tends to rush in order to finish tasks; typically active and alert, both mentally and physically

Type B: apparent lack of motivation, drive, urgency, competitive spirit, ambition or desire; calm, relaxed and non-competitive

Type C: a personality which involves passion for work and desire to achieve goals (typical of Type A), but when faced with stress, the person becomes apathetic (typical of Type B). Seems less likely to be distressed than A, but may also be less resilient in face of challenge

Type D (for “distressed”): “behavior characterized by the joint tendency to experience negative emotions and to inhibit these emotions, while avoiding social contacts with others” (Sher, 2005); experience increased anxiety, anger, stress and loneliness
We are nature seeing Nature.

~ Susan Griffin

Author photo, Lost Gardens of Heligan, England
Human patterns can be physiological, behavioral, psychological

Traditionally, all of the above have been synthesized into observable, qualitative patterns (e.g. constitution or tissue state). These patterns are usually associated with qualities in the natural environment, often called “energetics” in traditional medical systems.

<table>
<thead>
<tr>
<th>Term</th>
<th>Quality</th>
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<tbody>
<tr>
<td>Irritable/Overactive</td>
<td>Hot</td>
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<tr>
<td>Stagnant</td>
<td>Damp</td>
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<tr>
<td>Atrophic/Underactive</td>
<td>Dry</td>
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<tr>
<td>Unresponsive/Decaying</td>
<td>Cold</td>
</tr>
<tr>
<td>Tense</td>
<td>Hot or Cold</td>
</tr>
<tr>
<td>Lax/Permeable</td>
<td>Damp or Dry</td>
</tr>
</tbody>
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*These aren’t absolute or complete correlations ~ nature is nuanced and complex.
Four Basic Patterns of Adaptation/Maladaptation:

- Hot/Dry/Overactive/Tense
- Cool/Moist/Lax/Stagnant
- Warm/Moist/Lax/"Permeable"
- Cold/Dry/Depleted/Tense
Basic Patterns of Distress/Expression of Allostatic Load
Psychology meets Traditional Energetics
Working Model

**Hot/Overactive/Excessive/Tense**
Type A (active/aggravated?)

**Cool/Moist/Relaxed/Stagnant**
Type B (boggy/blasé?)

**Warm/Moist/Lax**
Type C (changeable/combo?)
A+B characteristics suggest tendency towards heat + dampness

**Cold/Dry/Depleted/Tense**
Type D (distressed/depleted?)
After the broad adaptation pattern, get to specifics

What makes this person unique?
the particular experiences, perspectives and narrative of the individual; nuances of history and present circumstances

What do they believe about cause or history?
What do they believe is necessary for change?
What kind of support or ally resonates most?
What plants do they love (or avoid)?
  Hunches? Affinities?
Unique details of pathology
  (e.g. specific hormone profile that a plant might target)
We can group plants in the same way we look at people:

First, the broad categories of action and adaptation pattern:

e.g. an adaptogen for a hot, tense, irritable presentation
Selected Nervines and Adaptogens for Stress, Trauma and Resilience
Grouped by Adaptation Pattern

Hot/Excessive/Dry/Tense
Type A (active/aggravated?)
Chamomile
Mimosa
Hawthorn
Gotu kola
Kava**
Vervain
Linden
Motherwort
Hops
Baikal skullcap
Raw Rehmannia
Eleuthero

Cool/Moist/Relaxed/Stagnant
Type B (boggy/blasé?)
Mugwort
Rosemary
Lavender
Damiana
Valerian
Lemon balm^ Turmeric
St John’s wort* Holy Basil
Rhodiola Schisandra*

* use w/care with some medications, **avoid in liver damage, ^avoid high dose in hypothyroidism, ^^avoid high dose in hypertension
Warm/Moist/Lax
Type C (changeable/ combo)
- Ginkgo
- Gotu kola
- Rose
- Skullcap
- Chamomile
- Anise hyssop
- Lavender
- Mugwort
- Angelica
- Baikal skullcap
- Turmeric*
- Reishi
- Rhodiola

Cold/Dry/Depleted/Tense
Type D (distressed/depleted)
- Gotu kola
- Oat
- Rose
- Lavender
- Skullcap
- Passionflower
- Ashwagandha
- Shatavari
- Holy Basil
- Prepared Rehmannia
- Licorice^^
- Maca
- Codonopsis
- Astragalus

*use w/care with some medications, **avoid in liver damage. ^avoid high dose in hypothyroidism; ^^avoid high dose in hypertension
Second, ask what makes each plant unique?

To differentiate among plants with the same actions and “energetic” patterns, we draw on:

• personal and clinical experience of self and peers
• specific indications and unique energetic qualities (from historical use, empirical evidence)
• pharmacologic activity and/or clinical research
• secondary actions and organ tropisms of plant
• mytho-poetics and meaning-making (shared cultural or personal narratives, natural history and habits of plant, client affinity or associations)
The stories of plants and the stories of people often help us make meaning with our clients...

Meaning-making is actually a resilience-building strategy!

Artemis, namesake of the artemisias (e.g. mugwort)...

What is her story?
Let’s take a virtual resilience-building herb walk…

American Skullcap (*Scutellaria lateriflora*) excellent all-purpose, relaxing nervine for somaticized tension and stress, anxiety
Gotu kola (Centella asiatica)

anti-inflammatory, vulnerary, circulatory stimulant, anxiolytic, nootropic
Rose (*Rosa rugosa*)
a euphoriant nervine, both calming and uplifting; anti-inflammatory
Motherwort (*Leonurus cardiaca*)
Relaxing nervine, negative chronotrope, bitter, circulatory stimulant
Blue vervain (Verbena hastata)
relaxing and stimulating nervine, as needed;
excellent digestive bitter
Baikal skullcap
(Scutellaria baicalensis)
powerful anti-inflammatory, especially for cardiovascular and liver concerns; anxiolytic
Lemon Balm (*Melissa officinalis*)
nervine (relaxing and uplifting), digestive, antispasmodic, antiviral
Anise hyssop (*Agastache foeniculum*)
digestive antispasmodic,
relaxing nervine
Bee balm (Monarda didyma)
strong aromatic digestive, amphoteric nervine
St. John’s Wort (Hypericum perforatum)
nervine (esp. stimulating, but possibly relaxing, as well), antiviral (esp. HSV), vulnerary, neural analgesic
Turmeric (Curcuma longa) anti-inflammatory, aromatic bitter, vulnerary, “anti-depressant”
Milky oat (Avena sativa)
safe, nourishing nerve “tonic”, useful in most all mood disorders, chronic stress and trauma
Ashwagandha root (Withania somnifera) is an excellent building adaptogen with strong GABAnergic activity, anti-inflammatory properties.
Rehmannia glutinosa
adaptogen, “blood builder”, anti-inflammatory
Codonopsis pillosula

gentle adaptogen, digestive tonic, immunomodulant
Burdock (*Arctium lappa*)
prebiotic, alterative, gentle bitter
In addition to herbs, lifestyle and diet are paramount:

- constitutionally appropriate, nutrient-dense, anti-inflammatory diet (rainbow), emphasizing blood sugar regulation, protein, EFAs

- stress management tools, again appropriate to constitution/personality type
  
  e.g: nature, movement, spiritual practice/inspiration, human connection, play, sleep, talk therapy, biofeedback, somatic therapies
Neocortex
“Thinking”
Cognition, Language, Speech, Social and Regulatory Centers

Limbic/Mid-Brain
(Amygdala)
“Feeling”
Memory, Emotions and Alarm Center

The Brainstem (“Reptilian Brain”)
“Sensing”
Survival and Instinctual Centers (fight, flight, freeze)
Digestion, Reproduction, Circulation, Breathing, Sleeping

Slide text courtesy of Somatic Experiencing Trauma Institute / TraumaHealing.org
Accessing the Subcortical Brain

Trauma is in the nervous system, not in the event (or our stories about it).

Traditional therapies approach trauma resolution via the cortical brain systems (language, conscious thought, explicit memory)

Somatic therapies recruit the subcortical brain systems (body sensations, unconscious dynamics, implicit memory) to support safety and re-regulation in the nervous system
Somatic Therapies Broaden Traditional Approaches to Trauma Treatment

Cognitive Approaches:
• Focus on how thoughts influence emotions and behaviors ("top-down")
• Help identify distorted cognitive beliefs and maladaptive behaviors
• Target reduction of symptoms
• Help create more adaptive self-beliefs and behaviors
• Rely on insight and behavior change

Somatic Approaches:
• Focus on how the body influences thoughts, emotions, and behaviors ("bottom-up")
• Help people become aware of body sensations and procedural memories
• Target underlying dysregulation in the nervous system that causes/maintains symptoms
• Help create a greater control over debilitating symptoms and unconscious dynamics
• Rely on body awareness and physiological regulation

Slide text courtesy of Somatic Experiencing Trauma Institute / TraumaHealing.org
We’re working on building the range of resilience and capacity for self-regulation

**Activation – Deactivation Cycles**

**Sympathetic**
*Working, Excitement, Running*

**Parasympathetic**
*Relaxing, Digesting, Sleeping*

Range of Resiliency

Slide text courtesy of Somatic Experiencing Trauma Institute / TraumaHealing.org
Basic Skills used in Somatic Experiencing:

- Orientation
- Felt Sense
- Tracking
- Resourcing
Orientation employs *exteroception*: receiving direct information from the external environment
detects and informs us of the external environment via:

- Sight
- Hearing
- Smell
- Taste
- Touch
Felt Sense employs interoception:

Becoming aware of the internal states of one’s body

Detects and informs us of internal regulation responses, such as:
- Respiration
- Heart rate
- Body temperature
- Balance
- Hunger/Thirst
- Need for digestive elimination
- Emotions
- Pleasure/Pain
Felt Sense: The Language of Sensation

**Intensity of Sensations**
- Sharp
- Intense
- Hard
- Pressure
- Dull
- Weak
- Soft
- Solid

**Muscle Sensations**
- Trembling
- Achy
- Shuddering
- Crampy
- Shivery
- Twitching
- Pulsing
- Fluttery
- Shaky
- Shuddering
- Throbbing
- Tense
- Spasming

**Skin Sensations**
- Itchy
- Prickly
- Tingly
- Sweaty
- Moist
- Clammy
- Dry
- Flushed
- Goosebumps

**Whole Body Sensations**
- Trembling
- Heavy
- Thick
- Vibrating
- Flaccid
- Full
- Puffy
- Jittery
- Gurgling
- Energized
- Light
- Calm
- Fidgety
- Jumpy
- Tingling
- Faint
- Fuzzy
- Wobbly
- Spinning
- Buzzing

**Temperature**
- Frozen
- Icy
- Cold
- Cool
- Numb
- Warm
- Hot
- Boiling
- Steaming

**Constriction Sensations**
- Stuck
- Contracted
- Knotted
- Tight
- Blocked
- Congested
- Tense
- Constricted
- Breathless
- Compressed
- Suffocating

**Expansion Sensations**
- Expansive
- Moving
- Floating
- Flowing
- Fluid
- Relaxed
- Radiating
- Glowing
- Waves
- Streaming

*Slide text used with permission from Somatic Experiencing Trauma Institute / TraumaHealing.org*
Tracking

Following the felt sensations in the body through focused inward attention

Consciously becoming aware of the body and the information it provides about our “true” experience of safety, alarm, overwhelm, etc.
Resourcing

Resources are anchors that help stabilize the nervous system

External

- **People, places or activities** (in reality or in imagination) that are comforting, calming, settling
  - Safe people, pets, places in *nature*, home, special rooms, music, exercise, travel, vacation, spiritual community

- **The therapist’s/herbalist’s engagement**: capacity to track well, to be in resonance/attunement, to create a safe space
Resourcing

Internal

- When client experiences settling, less constriction, more breath, more presence, pleasure

- **Positive sensations** in the body:
  - relaxed, more spacious, less tense, grounded, stable, connected, have a freer range of movement, tingling, move alive
Nature Time as Somatic Therapy

Reduces neuroendocrine hyperactivation, regulates allostatic mechanisms, including HRV

Offers orienting and sensing opportunities

Can be a resource for later use, even when not in natural environment

“Forest bathing” (Shinrin-yoku) anyone?
Plants can be Somatic Resources

External
Herb shapes, colors, scents, tastes, textures that are pleasurable can be experienced in the moment or brought to mind later.

Internal
Ingesting, inhaling, sitting with plants can engender noticeable shifts in internal sensation which can then be anchored as a resource to return to, even without the plant’s presence.
Just looking at this photograph can be a resource...

Exercises for Self Regulation

Giving people tools to settle themselves during arousal is the first step in healing from and preventing further damage from stress and trauma.

Most, if not all, mind-body practices guide us towards a predominantly parasympathetic state where we can be **calm, but curious, and tolerant to new stimuli**.

Exercises don’t need to be complicated or require special equipment. We can harness our capacity for presence and pleasure, however small, in each moment.
Orienting and Felt Sense Exercise

1. Using your senses (sight, hearing, touch, etc.), identify 3 things you’re drawn to in your environment.

2. Sensing internally, identify 1 sensation you’re aware of from within your body.

3. Again, using your senses identify 3 things you’re drawn to in your environment.

4. Notice what’s happening now: How do you feel overall?
Orienting and Felt Sense Exercise Application

This external orientation “sandwich” is especially useful when a client seems to spiral into activation when “going inside” too much. It is a way of **easing into the body** (titrating) without overwhelming the nervous system.

Orienting to the environment with eyes open--while being curious about what’s pleasurable--is a gentle place to begin and a safe place to come back to.

Sometimes just orienting to a space and identifying and focusing on what’s pleasurable is enough.
Resource and Felt Sense Exercise

1. Think of an experience or person that makes you happy, brings a smile to your face.

2. Identify one sensation as you bring this resource to mind.

3. What is the size, shape, texture, movements, or even color associated with this sensation?

4. As you become aware of these qualities inside, notice what’s happening now: How do you feel overall?
Resource and Felt Sense Exercise
Application

This is a useful tool for a person in need of support who doesn’t always have access to people or places that feel safe or friendly.

Anchoring the symbol or story and attendant positive emotions (higher and mid brain) down into the body (brain stem) makes these resources more real and ultimately more impactful.

When a person isn’t comfortable in their body or frequently dissociates, this is a way to begin to bring goodness (as Peter Levine calls it) back to the body.
Anemone (Anemone pulsatilla)
an excellent anxiolytic in times of panic and dissociation from the body
(*low-dose botanical: 1-5 drops tincture diluted in water/dose)
Social Connection

Engaging in community in a way that is meaningful to us is one of the most reliable paths to resilience.

Positive social connections and a sense of purpose or meaning:
• increase vagal tone, positive emotions, and physical health (Kok, 2010)
• increase expression of a suite of genes associated with reduced inflammation and increased immune resistance (Cole, 2015)
May your journey with the plants be long and joyful.

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For Further Exploration

*Waking the Tiger* and *In an Unspoken Voice*, Peter Levine
*The Polyvagal Theory*, Steven Porges
*The Body Keeps the Score*, Bessel van der Kolk
*Why Zebras Don’t Get Ulcers*, Robert Sapolsky
*Biology of Belief*, Bruce Lipton

MacArthur Research Network on SocioEconomic Status and Health
[http://www.macses.ucsf.edu/research/allostatic/default.php](http://www.macses.ucsf.edu/research/allostatic/default.php)
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