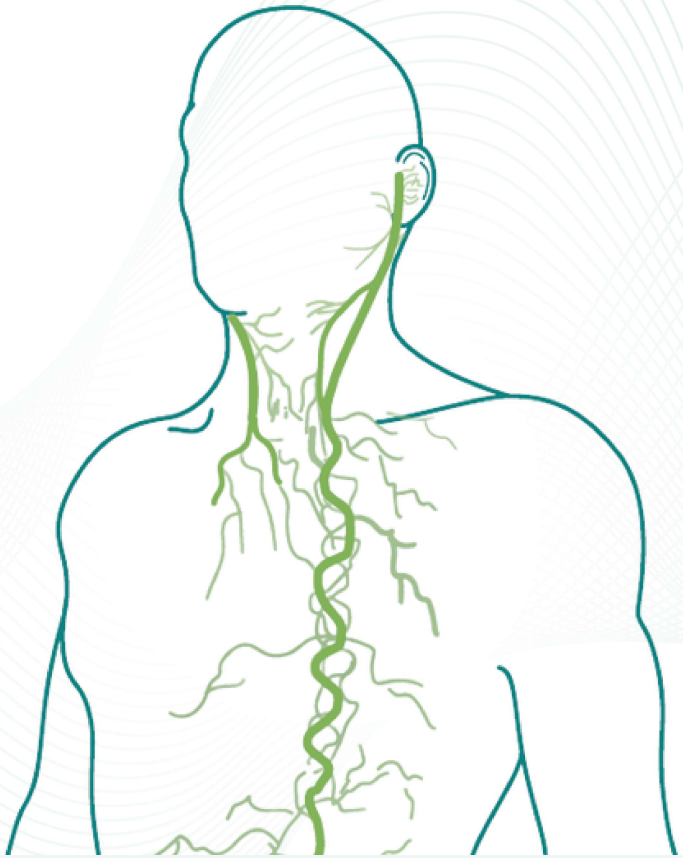


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Nervous System Regulating Activities

Supporting Awareness,
Embodiment and Resilience

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Nervous system regulating activities can support and enhance Unyte programs.

Use the activities in this guide to engage in mindfulness, vocalization, breathing, and movement. It is best to practice the activities before starting Unyte programs, so the activities are safe and familiar.

With support from a Unyte Provider, try these before, during and after SSP delivery, modifying or adapting them as needed.

You may also find these activities as videos under the Activity Library tab in Unyte Resources.

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Sensory Orientation

Bring attention to your body and your environment, and away from disruptive thoughts.

- Bring attention to your body.
- Feel your feet on the ground or your seat on the chair.
- Promote body awareness through all the senses. What can you see? Take in sounds from around the room and inside your body. Can you feel the fabric of your clothing touching your body? What smells and tastes do you perceive?
- Notice and orient your awareness, alternating between inside and outside the body.

Rationale

Practicing orientation (connecting to your environment using the senses) helps to shift attention to the present moment, away from disruptive or repressed thoughts to more pleasant sensations in body and sensory experience.

Hanscom, D. A. (2021). Plan A - Thrive and Survive Covid-19 (2nd ed.). Vertus Press, Inc.

MINDFULNESS



Visualization

Close your eyes and picture yourself somewhere safe to reduce symptoms of anxiety.

- Find yourself in a comfortable position and allow your body to feel grounded in your space.
- Take a deep breath in, and as you exhale, start to visualize yourself in nature. What do you see? Perhaps you see the fall leaves rustling in the wind. Perhaps you see the waves slowly rolling onto the shore. Maybe it's the next mountain peak off in the distance. What else do you see in this safe place?
- Know that this is a place just for you. It is a safe, warm and peaceful setting that brings you comfort. Using your breath, you can return here anytime.

Rationale

Spending time in nature is one approach that has demonstrated anxiolytic effects. However, spending time in nature may not always be possible, as may be the case in indoor therapeutic settings. Alternatively, nature-based guided imagery has been found to be effective for reducing anxiety symptoms.

Nguyen, J., & Brymer, E. (2018). Nature-Based Guided Imagery as an Intervention for State Anxiety. Frontiers in psychology, 9, 1858. https://doi.org/10.3389/fpsyg.2018.01858



Singing and Chanting

Sing a song that's been stuck in your head or a simple chant while taking notice of changes in your mood or focus.

- Take a deep breath in and feel your lungs fill with air.
- In unison or independently, exhale as you chant Ōṁ (aum), or sing your favorite phrase of music.
- Continue for one to three minutes.

Rationale

Singing or chanting increases blood flow to the brain, and supports regulation of the heart and nervous system, particularly when performed at a rate of five to six breaths per minute. Group synchronization increases social cohesion leading to increased positive mood and focused attention and thus decreasing ruminating thoughts. Chanting stimulates glossopharyngeal cranial nerve and auditory feedback that cross-activates the ventral vagal complex.

Perry, G., Polito, V., & Thompson, W. F. (2016). Chanting meditation improves mood and social cohesion. International Conference on Music Perception and Cognition; The Society for Music Perception and Cognition (SMPC), 324-327.

Nester, J. (2020). Breathe: The new science of a lost art. (1st ed.). Riverhead Books, New York.

VOCALIZATION



Humming

Stimulate the vagus nerve to help calm your nervous system with this simple exercise.

- In unison or independently, hum a familiar tune (don't worry if you're off-key).
- Notice the sensations in your head, throat and chest.
- Experiment with different volumes and physical qualities.

Rationale

The vagus nerve passes through the vocal cords and inner ear. Rhythmic vibrations from humming stimulate the vagus nerve and help to calm the nervous system.

Malchiodi, C. A. (2020). Trauma and expressive arts therapy: Brain, body, and imagination in the healing process. NY: Guilford Publications.



4-Part Box Breath

Activate the vagus nerve by breathing with rhythm, pause and intention.

- Slowly exhale, emptying your lungs.
- Inhale slowly and deeply through your nose for the count of four until your lungs are full.
- Hold your breath for a count of four (lungs full).
- Exhale for a count of four.
- Hold your breath for a count of four (lungs empty).
- Repeat three to four times.

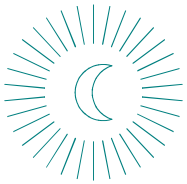
**Do not hold your breath if you are pregnant or feel lightheaded.*

Rationale

Voluntary rhythmic breathing activates the vagus and its medullary nucleus, regulating autonomic stress-reactivity.

Loizzo, J. J. (2018). Can embodied contemplative practices accelerate resilience training and trauma recovery?. Frontiers in human neuroscience, 12, 134.

BREATHING



Yawning

Stimulate the part of your brain that supports self-reflection and memory retrieval with a big yawn (or several).

- To trigger a deep yawn, do six or seven fake yawns and eventually a real yawn will emerge.
- Keep going, and by the 10th or 12th yawn, you may feel changes.
- Do you feel relaxed, highly alert and completely present in your body? (Your eyes might start watering and your nose might run — that's normal.)

Rationale

Yawning stimulates a part of the brain called the precuneus. This part of the brain plays a key role in self-reflection and memory retrieval. Yawning supports our sense of being more self-aware and decreases anxiety. It also supports regulation of the brain's temperature and metabolism, bringing a sense of increased cognitive awareness and relaxation.

Newberg, A., & Waldman, M. R. (2006). Why we believe what we believe: Uncovering our biological need for meaning, spirituality, and truth. Simon and Schuster.



Diaphragmatic Breathing

Ground yourself with deep breaths, focusing on the movement of your body.

- Sit comfortably with your shoulders, head and neck relaxed.
- Place one hand on your chest and the other just below your rib cage.
- Breathe in slowly, and feel a slight rise in your chest, a slight belly rise, and lateral expansion of your lower ribs as your diaphragm moves downward.
- Exhale slowly through your nose or pursed lips.



Rationale

Diaphragmatic breathing has demonstrated positive effects on attention, affect and autonomic regulation, as indicated by cortisol levels.

Ma, X., Yue, Z. Q., Gong, Z. Q., Zhang, H., Duan, N. Y., Shi, Y. T., Wei, G. X., & Li, Y. F. (2017). The Effect of Diaphragmatic Breathing on Attention, Negative Affect and Stress in Healthy Adults. Frontiers in psychology, 8, 874. https://doi.org/10.3389/fpsyg.2017.00874



Resonance Breathing

Use this breathing technique to reduce stress.

- Find a comfortable position.
- Inhale and exhale slowly for several rounds of breath.
- Breathe in for five seconds and out for five seconds (six breaths per minute).
- Continue this pattern for several minutes.

Rationale

Resonance breathing has been found to increase heart rate variability (HRV) and resilience to stress.

Steffen, P. R., Austin, T., DeBarros, A., & Brown, T. (2017). The Impact of Resonance Frequency Breathing on Measures of Heart Rate Variability, Blood Pressure, and Mood. Frontiers in public health, 5, 222. https://doi.org/10.3389/fpubh.2017.00222

BREATHING



Extended Exhale

Slow down your breathing through a longer exhalation.

- Find a comfortable position.
- Inhale and exhale slowly for several rounds of breath.
- Begin extending your exhale to twice the length of your inhale (e.g. two seconds in, four seconds out).
- Maintaining a 1:2 ratio, gradually extend your breath to your comfort (e.g. four seconds in, eight seconds out).
- Continue this pattern for several minutes.

Rationale

Extended exhale breathing has been found to increase HRV and engage the parasympathetic nervous system.

Bae, D., Matthews, J., Chen, J. J., & Mah, L. (2021). Increased exhalation to inhalation ratio during breathing enhances high-frequency heart rate variability in healthy adults. Psychophysiology, 58(11), e13905. https://doi.org/10.1111/psyp.13905



Releasing the Neck

Feeling tightness in your neck? Relieve the muscles in this area to decompress the vagus nerve.

- Roll your shoulders up, back and down, and direct your gaze forward.
- Slowly begin tipping your right ear toward your right shoulder without turning your head.
- Shift your attention to the left side of your neck. When you feel it fully lengthened, bring your eye gaze to the right and take four to six deep breaths while noticing the sensation in the left side of your neck.
- Return your head and gaze to the starting position, and repeat on the left side.

Rationale

The vagus nerve runs behind the sternocleidomastoid muscle and in front of the scalenes, which tend to be two of the tightest muscles in the neck, and can cause irritation to the vagus nerve. Stretching out these muscles relieves pressure that may compromise vagus nerve function.

Ozel Asliyuce, Y., Berberoglu, U., & Ulger, O. (2020). Is cervical region tightness related to vagal function and stomach symptoms?. Medical hypotheses, 142, 109819. https://doi.org/10.1016/j.mehy.2020.109819



Gentle Shaking

Follow this qigong practice that tells us, in essence, to shake it out.

- Stand up and place your feet hip distance apart.
- Lift up onto your toes and press your heels back into the floor beneath you.
- Slowly and gently start to lightly shake your body.
- You may start to feel the shaking first in your limbs and muscles, but as you continue, let it sink deeper into your muscles, tissues and other body parts.

Rationale

Regular qigong practice that includes gentle shaking and movement can help relieve symptoms of depression, improve self-efficacy and personal well-being.

Tsang, H. W., Fung, K. M., Chan, A. S., Lee, G., & Chan, F. (2006). Effect of a qigong exercise programme on elderly with depression. International Journal of Geriatric Psychiatry, 21(9), 890–897. https://doi.org/10.1002/gps.1582



Self-Touch

Practice self-love with a hug, which has been shown to help lower stress.

- Give yourself a hug while gently rocking side to side.
- Place your hand on your heart, pushing downwards to give yourself grounding pressure.

Rationale

Touch (from the self or an attuned other) releases oxytocin in the brain, stimulating the release of feel-good hormones in the brain and thus lowering stress hormones. A nonverbal cue of safety, touch can be especially effective, because it is a direct, palpable experience of support. As Dr. Porges has said, feeling “safe in the arms of another” is among the most powerful routes to re-establishing an internal sense of well-being.

Procyk, S. M. (2020). The Magic of Polyvagal Theory: Inviting Vulnerability and Facilitating Safety through Coregulation, Touch, and Micro Interactions (Doctoral dissertation, Pacifica Graduate Institute).



Rhythmic Movement

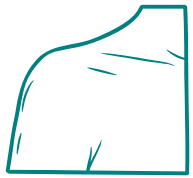
Help reduce stress by stimulating the vestibular system with rhythmic movement.

- Consider using everyday equipment, such as rocking chairs, playground swings or hammocks to engage in rhythmic movement.
- You may also try rolling a ball back and forth in a rhythmical manner, bouncing rhythmically on your lap or a therapy ball or simply side to side weight-shifts in a rhythmical manner.
- Start slowly and gently, and increase the intensity and duration to the client’s comfort.

Rationale

Vestibular stimulation through swinging has been found to reduce stress, as measured by decreases in blood pressure, respiratory rate and improved sleep quality.

Kumar, S. S., Rajagopalan, A., & Mukkadan, J. K. (2016). vestibular stimulation for stress management in students. Journal of clinical and diagnostic research, 10(2), CC27–CC31. https://doi.org/10.7860/JCDR/2016/17607.7299



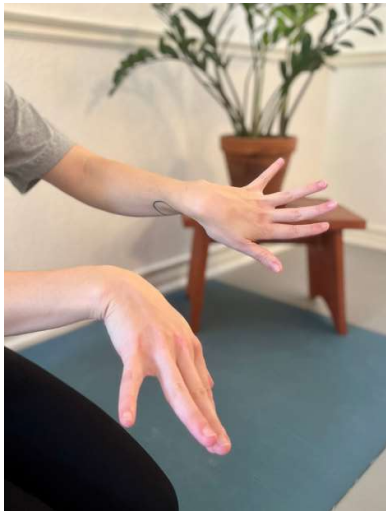
Joint Circles

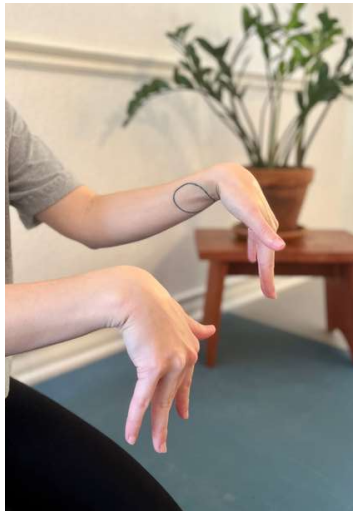
Relieve key areas of your body from tension you may be feeling with simple exercises.

- Start by sitting or standing in a comfortable position.
- Tilt your head toward your right shoulder. Slowly tuck your chin to your chest, then bring your left ear toward your left shoulder. Rotate your head backwards until your chin shines up to the sky.
- Bring your hands in front of you with your palms up.
- Make gentle circles with your wrists, releasing any tension you feel in your joints.
- Bring both shoulders up toward your ears, then let your shoulder blades come together, and relax as you lower your shoulders down your back.
- Stand and place your hands on your hips.
- Move your hips in a circular motion.
- Sitting in a chair, lift your feet off the floor.
- Make gentle circles with your ankles.
- Repeat five circles in each direction on each joint.





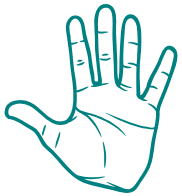




Rationale

Active range of motion through the joint requires opposing muscles to contract and relax in a coordinated movement throughout the joint. Joint circles can improve proprioceptive awareness.

Friemert, B., Bach, C., Schwarz, W., Gerngross, H., & Schmidt, R. (2006). Benefits of active motion for joint position sense. Knee surgery, sports traumatology, arthroscopy : official journal of the ESSKA, 14(6), 564–570. https://doi.org/10.1007/s00167-005-0004-7



Joint Compressions and Deep Pressure

Place deep pressure into key areas, which has been shown to help improve mood.

Starting at the feet, place one hand on the heel and one hand above the ankle (supporting above and below the joint).

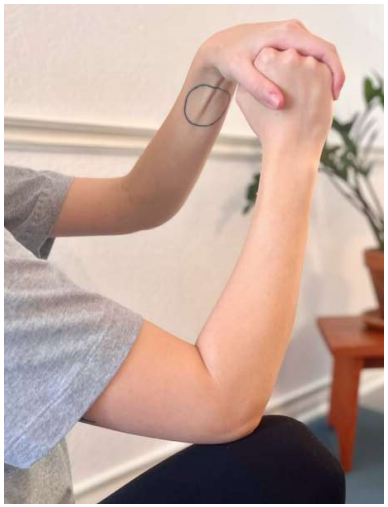
Compress into the joint gently and firmly 10 times.

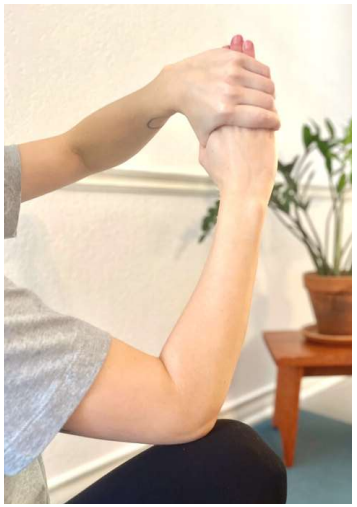
Complete with joints on both sides of the body (ankles, knees, hips, wrists and neck).

- Hips: best performed seated with a bent knee
- Wrists: if doing to self, stabilize forearm against torso and bent knee
- Neck: Gently press down on the head with both hands

Deep pressure can alternatively be provided through weighted blankets, brushing, massage or other tools by providers trained in sensory-based interventions. Avoid or skip joints with injuries.







Rationale

Deep pressure can improve mood and behavior, including happiness, communication, calmness, engagement and responsiveness.

Bestbier, L., & Williams, T. I. (2017). The Immediate Effects of Deep Pressure on Young People with Autism and Severe Intellectual Difficulties: Demonstrating Individual Differences. Occupational therapy international, 2017, 7534972. https://doi.org/10.1155/2017/7534972



Yoga

Physical activity has been shown to have a positive effect on depression and anxiety levels. Start with these essential yoga poses.

Legs Up the Wall (Slight Inversion)

- Sit with your right side against the wall, with bent knees and your feet drawn in toward your hips.
- Swing your legs up against the wall as you turn to lie flat on your back.
- Place your hips against the wall or slightly away. Place your arms in any comfortable position. Stay in this position for up to 20 minutes.
- To release the pose, draw your knees into your chest and roll onto your right side.
- Rest for a few moments before slowly moving into an upright position.

Knees to Chest

- Lie down on your back and pull both knees up to your chest.
- Slowly pull the knees toward the shoulders until you feel a gentle stretch in your lower back.
- Stay in knees to chest pose for 30 seconds to one minute.

Child's Pose

- Kneel on the floor with your toes together and your knees hip width apart. Slowly walk your arms forward, laying your torso between your legs.

Cat-Cow Pose

- Begin with your hands and knees on the floor, a neutral spine and your core muscles engaged.
- Align your knees under your hips and your wrists under your shoulders.
- On your inhale, arch your back, let your belly relax and go loose. Lift your head and tailbone up toward the sky without putting any unnecessary pressure on your neck. This is the cow pose.
- On the exhale, round your spine up toward the ceiling in spinal flexion, pulling your belly button up toward your spine. Tuck your chin toward your chest and let your neck release. This is the cat pose.
- Continue flowing back and forth between cat pose and cow pose, and connect your breath to each movement — inhale for cow pose and exhale on cat pose.

Rationale

Physical activity participation has been found to decrease levels of anxiety and depression. Yoga and mindful movement has been found to increase focus, social connectedness and relaxation.

Zhu, X., Haegele, J. A., & Healy, S. (2019). Movement and mental health: Behavioral correlates of anxiety and depression among children of 6–17 years old in the US. Mental Health and Physical Activity, 16, 60-65.



Ear Massage

Stimulate the vagus nerve and feel more relaxed with just your fingers.

- Begin by bringing awareness to the ears. One at a time, assess the tension in them by gently pulling the ear away from the head at different points. Notice if one side feels more elastic or stiff compared to the other.
- Place the index finger in the hollow above the ridge that is above the ear canal and gently massage the area in little circles, and visualize the skin sliding over the bone.
- Bring your finger to the ear canal and softly press toward the back of the head while making small circles with your finger.
- Repeat on the other ear, and then reassess the ears by gently pulling them and noting any changes in stiffness.





Rationale

The auricular branch of the vagus nerve supplies sensory innervation to the skin of the outer ear. By providing sensory input to these parts of the ear, the vagus is stimulated to increase vagal tone and initiate a relaxation response through parasympathetic activity.

Rong, P. et al., (2020). Auricular vagus nerve acupressure for patients with emotional distress under the COVID-19 pandemic: a smartphone-based, randomized controlled trial. https://doi.org/10.2196/preprints.25001

Nervous System Practices

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