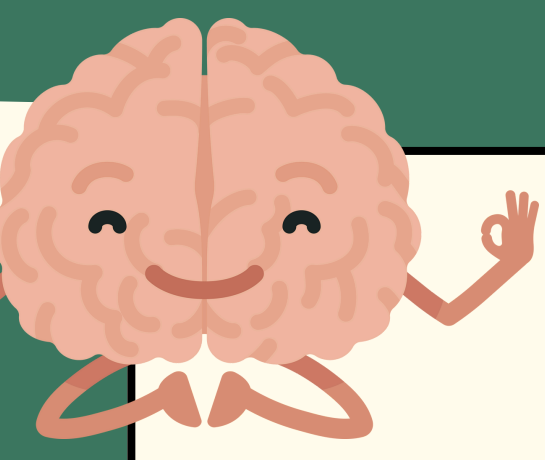
Therapy with Allison, LLC ©

THE AUTONOMIC NERVOUS SYSTEM



PARASYMPATHETIC. VENTRAL VAGAL. SAFE/ENGAGED.

Also known as being within one's **"window of tolerance."** When we feel a sufficient sense of safety, we can function effectively here, managing stress, self-soothing, and staying curious and engaged.

What does it look like/what's happening in the body in this stage? You feel connected with yourself and others, can maintain good eye contact, and experience healthy digestion and immune function. Blood circulation is steady to non-vital organs, and your heart rate and blood pressure are well-regulated.

SYMPATHETIC. HYPERAROUSAL. ACTIVATION.

In this state, you may feel a sense of overwhelm, irritability, fear, and panic. This can also lead to obsessive thinking, impulsivity, and a reduced ability to engage socially.

These symptoms can be useful in situations requiring fight or flight, as they help prepare the body for action. However, when these responses occur out of context, they can be uncomfortable and unhelpful.

What's happening in the body in this stage? The body experiences a surge of adrenaline, leading to increased blood flow and oxygen delivery to vital organs. The lungs expand to provide more oxygen to the brain, enhancing alertness. Adrenaline also stimulates the release of stored blood sugar and fats, giving a boost of energy.

At the same time, blood flow and oxygen to non-vital organs decreases, and the body's ability to clot blood increases. Digestion slows down, which can lead to reduced saliva production and a dry mouth. Breathing rate increases and often becomes shallow. This accelerated breathing helps burn sugar quickly, providing an immediate energy boost when needed.

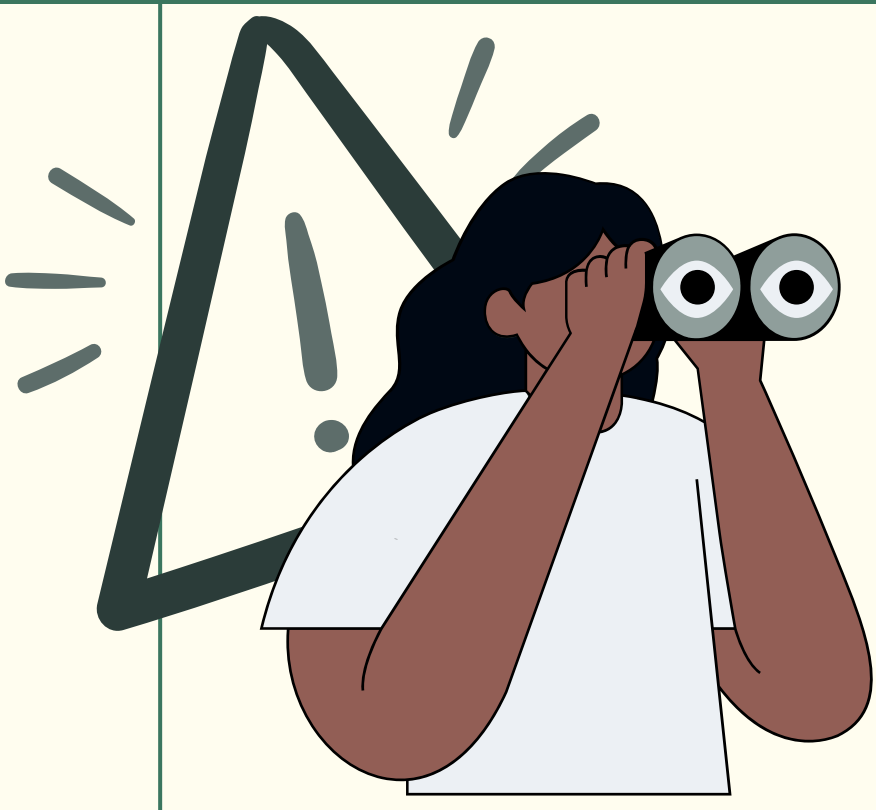
PARASYMPATHETIC. DORSAL VAGAL. HYPOAROUSAL. COLLAPSE.

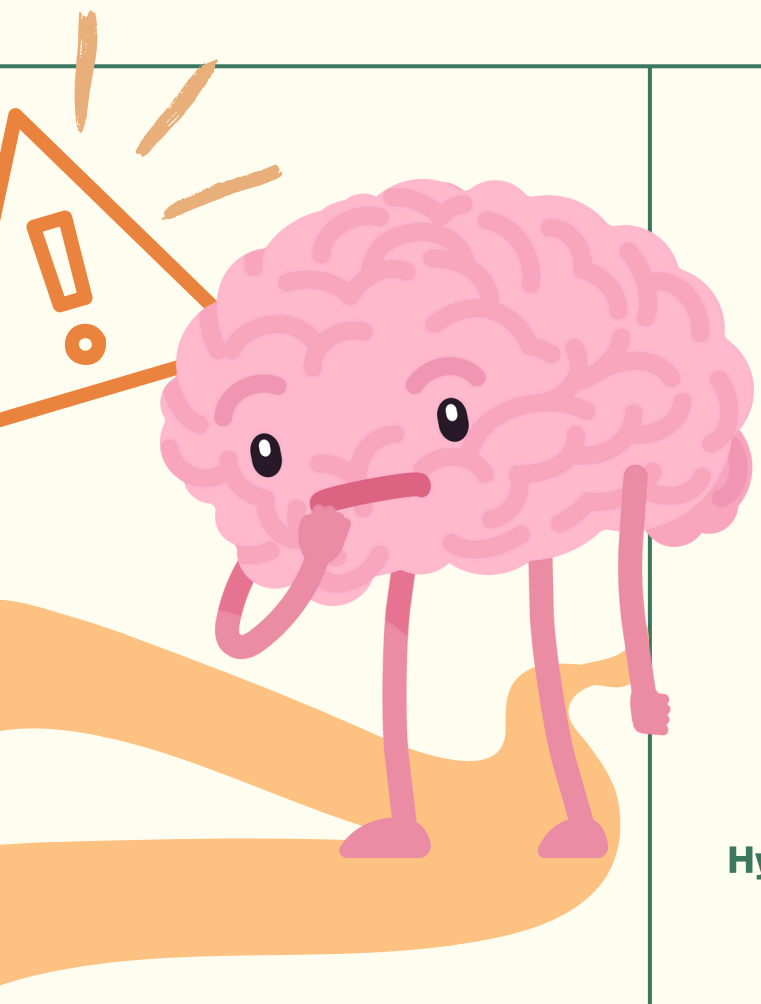
This state involves total collapse and immobilization, typically a last resort when fight or flight options are deemed unlikely or unsuccessful. If the nervous system recognizes that these responses are not feasible, it shifts into a collapse state.

Symptoms may include: dissociation, disorientation, depression, numbness, loss of interest in activities, hopelessness, helplessness, despair, disconnection to self and others, blank mind, and flat emotion.

What's happening in the body in this stage? The body experiences an increase in pain-reducing endorphins, leading to a heightened sense of physical numbness, along with a slowing of heart rate and blood pressure, slower breathing, emerging fatigue, and diminished eye contact, muscle tone, and facial expression.

Both **real** and **perceived** threats can trigger hypoaroused or hyperaroused states in your nervous system. Your nervous system is always on alert, constantly scanning for potential danger. Each state plays a crucial role, and the nervous system activates specific responses to help you navigate and survive potential threats.





Several brain regions are involved in activating survival responses, and there are two primary pathways for this process. In the first pathway, sensory information travels from the **Thalamus** (which relays sensory data) to the **Cortex** (responsible for problem-solving, learning, and reasoning), and then to the **Amygdala** (which triggers the alarm). In the second pathway, sensory information moves directly from the **Thalamus** to the **Amygdala**. The **Amygdala** then sends a distress signal to the **Hypothalamus**, which acts as the control center, initiating the survival response.

For individuals who experience panic or anxiety without an obvious trigger, it may be that the survival response was activated via the second pathway described above. In this case, the response bypassed the Cortex and did not integrate any associated thoughts or meanings related to the sensory information.

Memories, stored in the hippocampus and accessed by the Amygdala, significantly influence what we perceive as dangerous. Depending upon what pathway is taken, we may be aware or unaware of what is activating a survival response.

Where does “Freeze” fit in?

The freeze response is not solely hypoarousal; rather, it represents a combination of both hypoarousal and hyperarousal states. During a freeze response, a person might experience muscle tension or constriction, which can feel like a surge of energy—signs of a hyperaroused state. Simultaneously, they may feel so overwhelmed that they feel immobilized, a sign of a hypoaroused state.

Explore the following pages to discover strategies for shifting your nervous system's state. These techniques can be valuable in guiding you, but it’s also crucial to delve into the root causes if your reactions seem disproportionate to the situation. Understanding why certain states become activated can help address underlying issues.

Tips for shifting from a **hyperaroused** state to a window of tolerance:

Breathing Techniques

- 4-7-8 Breathing: Inhale for 4 seconds, hold for 7, and exhale for 8. Repeat to calm your body.
- Diaphragmatic Breathing: Focus on deep belly breaths rather than shallow chest breaths to help engage your body's natural relaxation response.
- Box Breathing: Inhale for 4 counts, hold for 4, exhale for 4, hold for 4. This steady pattern helps soothe your mind and body.

Grounding Exercise

- 5-4-3-2-1 Technique: Ground yourself in the present by focusing on your senses. Identify 5 things you can see, 4 things you can touch, 3 things you can hear, 2 things you can smell, and 1 thing you can taste.

Engaging the Senses

- Snuggle a Pet: Snuggle or cuddle a pet, focusing on the soothing sensations you feel during the experience.
- Utilize Aromatherapy: Use calming scents like lavender, rose, and frankincense to activate your senses (be mindful of any scents that might trigger unpleasant memories).

Mindfulness-Based Meditation

- Practice mindfulness meditation by slowing down your thoughts and reconnecting with your body. You can use short, guided mindfulness exercises to help you stay present. You may want to practice meditation by using an app on a smartphone device. Both Insight Timer and the Calm App have free and paid versions.

Cold Water Exposure – aim for targeted or gentle exposures by applying cold water to specific areas like the face (using a cold splash or compress) as this can calm by activating the parasympathetic nervous system.

- Gently splash cold water on your face or hold a cold compress to activate your body’s calming parasympathetic nervous system, which can help reduce hyperarousal.

Safe Place Visualization

- Visualize a Safe Space: Imagine a peaceful, comforting place in great detail, engaging all your senses. This mental exercise can help you feel more secure and calm.

Weighted Blanket or Deep Pressure

- Deep Pressure: If it feels comfortable, apply deep pressure using a weighted blanket or by pressing your hands firmly on certain body parts. This can help calm and soothe your nervous system.

Physical Movement

- Light Movement: Gentle exercises like stretching, yoga, or walking can help regulate your nervous system. Focus on connecting your breath with your body movements to enhance relaxation.

Binaural Beats

- Practice with Binaural Beats: Listening to binaural beats through headphones can help shift your brainwave state depending on your needs. For relaxation or stress reduction, try lower frequencies (Alpha 8-12 Hz, Theta 4-8 Hz, or Delta 1-4 Hz). If you’re new to this practice, start by listening to a beginner track. This practice can support relaxation, creativity, and/or sleep depending on the frequency range.

Vocal Toning or Humming

- Humming or Chanting: Hum or chant to create vibrations in your body that stimulate the vagus nerve, helping to lower anxiety and reduce over-arousal.

Tips for shifting from a **hypoaroused** state to a window of tolerance:

Movement and Exercise

- Cardio Activity: Engage in brisk walking, jogging, dancing, or any activity that gets your heart rate up to stimulate arousal.
- Stretching or Yoga: Try gentle stretches or yoga with focused breathing to reawaken your body, especially after feeling lethargic.
- Freely Moving Your Body: Shake out your arms, legs, and entire body to release stagnant energy and increase alertness.

Breathwork

- Stimulating Breath (Kapalabhati): Practice short, rapid exhales through your nose while focusing on activating your diaphragm to help boost energy and alertness. You may want to try to follow along with an instructional video online.

Cold Exposure – aim for short and sudden exposures as these can provide a quick boost of energy by activating the sympathetic nervous system.

- Cold Showers: A quick cold shower can stimulate your sympathetic nervous system and increase arousal.
- Cold Splash: Splash cold water on your face or place a cold compress on your neck to bring alertness to your system.

Engaging the Senses

- Vibrant Colors: Use bright or stimulating colors in your environment, like looking at vibrant art or wearing colorful clothing.
- Loud, Upbeat Music: Listen to upbeat or energizing music to elevate your mood and increase arousal.
- Smell Stimulation: Use invigorating scents like citrus, peppermint, or eucalyptus to activate your senses (be mindful of any scents that might trigger unpleasant memories).
- Taste Stimulation: Try sucking on a warhead, chewing cinnamon gum, or eating a strong mint candy to activate your senses.

Engage in Novelty

- New Experiences: Try small, novel activities that challenge your brain, such as learning something new, visiting a different place, or starting a new hobby.
- Spontaneity: Break your routine by doing something spontaneous and playful to stimulate your brain and shift out of hypoarousal.

Self-Expression

- Creative Expression: Engage in activities like painting, writing, or making music to express your emotions and stimulate engagement.
- Talking: Have conversations that involve emotional expression, whether with a friend, a family member, or through journaling.

Social Engagement

- Social Connection: Spend time with friends, family, or your community to stimulate mental and emotional energy.
- Touch: Physical contact with trusted loved ones, such as a hug, can help activate your body and shift you out of hypoarousal.

Mindfulness with a Focus on Engagement

- Mindfulness Walks: Take mindful walks during which you have an opportunity to observe your environment, paying attention to details of sights, sounds, and sensations. Try to hold a sense of openness and curiosity.
- Focus on Sensation: Tune into your bodily sensations with the intention of becoming more engaged and alert, such as noticing texture or temperature.

Lighting and Environment

- Bright Natural Light: Expose yourself to natural sunlight or bright artificial light to help reset your internal clock and boost energy levels.
- Stimulating Environment: Create an environment with sounds, movement, and visuals that spark curiosity and engagement.

Proprioceptive Activities

- Balance Challenges: Engage in simple balance challenges, like standing on one leg or walking on a line, to bring awareness back into your body.