

# BRAIN-BODY FUNCTIONS RELATING TO TRAUMATIC STRESS AND RESTORATION: Non-Pathological Physiological Brain-Body Responses to the Environment

**ANS**  
Autonomic Nervous System

Moves as a  
See-Saw in balance

**SNS**  
Sympathetic Nervous System

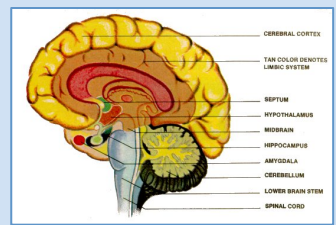
**FIGHT/FLIGHT**  
"HOT ZONE"

**PNS**  
Parasympathetic Nervous System

**RELAXED or FREEZE**  
"COOL ZONE"

**ERGOTROPIC (ENERGY-SEEKING)**  
Activates SNS, Motor and Premotor System:  
*(Incr. muscle tension and prepare to act)*  
Endocrine System:  
*(Incr. secretion of stress hormones)*  
Central Nervous System: *(Incr. sensory alertness)*  
Too much activation:  
"OUT OF" WINDOW OF TOLERANCE

**TROPHOTROPIC (NUTRITION-SEEKING)**  
Activates PNS, Same systems as SNS, but for:  
**Rest, Relaxation, Feeding, Restoration, Recuperation**  
"IN" WINDOW OF TOLERANCE-Comfort Zone  
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Freeze State- "OUT OF" WINDOW OF TOLERANCE- Shut Down



**BRAIN**  
3 MAIN PARTS & LEFT/RIGHT HEMISPHERES

GOES OFF-LINE WHEN SUB-CORTICAL REGIONS ARE TRIGGERED

CONSCIOUS  
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UNCONSCIOUS

**3- Cerebrum-Neo-Cortex (Covering)**

- Executive Functions, Higher brain functions
- Decisions/Choice, Understand Consequences, Sense of Self in Relation to Others, Meaning
- Thinking, Imagining, Empathy, Morality

\* **RESPOND** \*  
(Thinking Before Doing)

**2- Limbic System-Mammalian Brain (Emotional Brain)**

- Fear / Pleasure/ Pain- Emotions
- Fight-Flight-Freeze
- Thalamus, Hypothalamus, Amygdala, Hippocampus

\* **REACT** \*  
(Acting Before Thinking)

**1- Brain Stem-Reptilian Brain**

- Autonomic Processes of the Organism
- Breathing, Hunger/Thirst, Sleep, Sex, Coordination of Movement, Posture, Balance
- Cerebellum, Pons, Medulla

SUB-CORTICAL REGIONS: OUT OF CONSCIOUS AWARENESS

**Right and Left Hemispheres of the Brain: (Need for Integration)**  
**Left:** Logic, Linear, Labeling, Language, List-Making  
**Right:** Imagery, Sensations, Feelings, Abstract Thinking, Artistic, Intuitive, Spiritual

- SNS or PNS Responses:**
- Intensify or calm down viscera
  - Alter blood circulation
  - Trigger hormonal and endocrine activation
  - Change muscle tone and posture
  - Increase or decrease cognitive arousal

- ATTENDING TECHNIQUES- 4 C'S** Dezelic & Ghanoum
- 1- "CALM" THE BODY**  
Regulate the Body to the "Cool Zone," Re-Set and Stabilize to present, Demonstrate Somatic Regulation
  - 2- "CHOICE" OF THINKING**  
Psychoeducation, Discussion, Neo-Cortex gets back online when physiology is calmed down
  - 3- "CONFRONT" THE CONCERNS**  
Address the Trauma/Concerns, Re-process, Re-work
  - 4- "CHANGE" BEHAVIORS- CHANGE THE WIRING**  
Changing beliefs, try new behaviors, with new results, while staying calm and regulated, creating and stabilizing new neural networks