

Using Pain Science to Your Advantage

Managing Acute and Chronic Pain

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MOVE for **HEALTH**
PHYSICAL THERAPY

THE MIND-BODY Connection

Understand your brain to understand your body

FRONTAL LOBE

- problem-solving
- speaking
- emotions
- judgment
- thinking



PARIETAL LOBE

- spatial orientation
- body awareness / sensations.
- left from right
- taste / touch
- reasoning



TEMPORAL LOBE

- language
- memory
- hearing
- object recognition



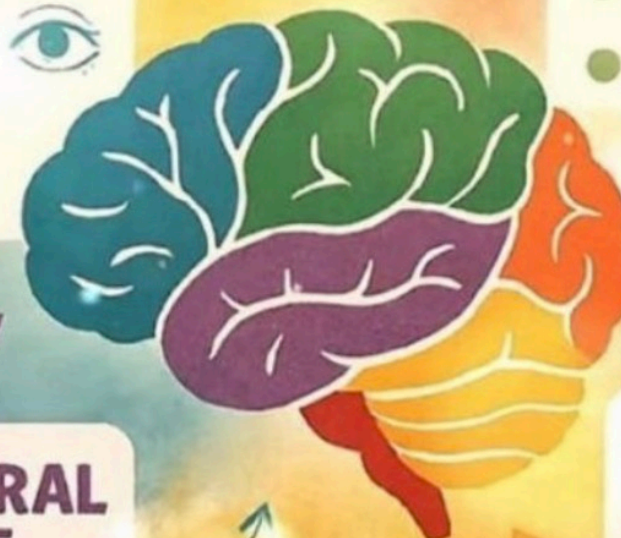
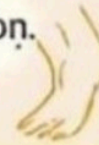
BRAIN STEM

- breathing
- heart rate
- alertness
- body temperature
- sleep pattern
- consciousness



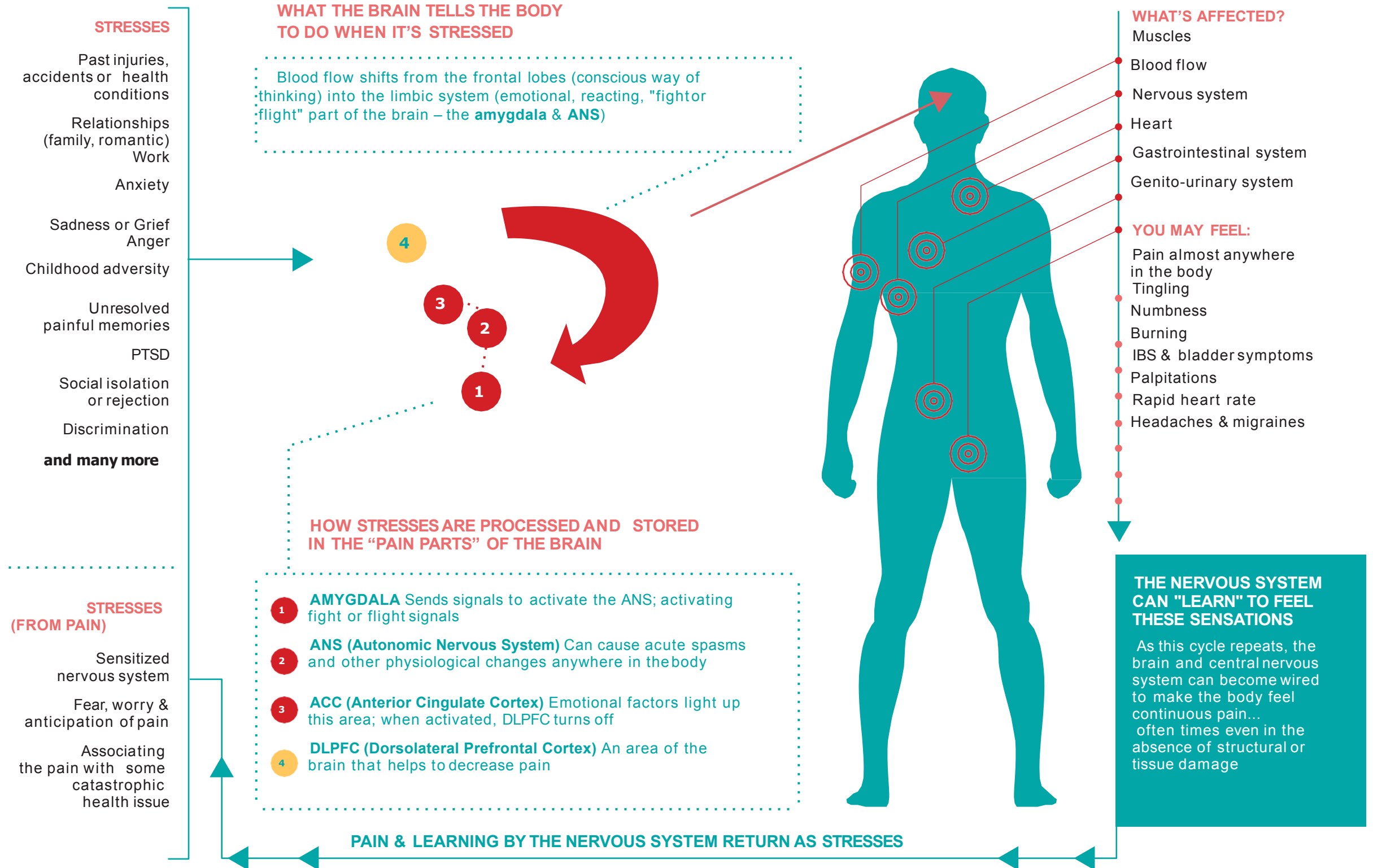
OCCIPITAL LOBE

- vision
- color perception
- coordination.
- balance



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Managing Acute and Chronic Pain (Curable.com)

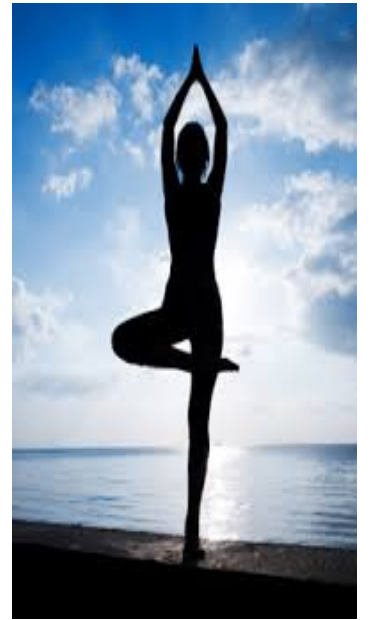


Breaking the Cycle of Stress & Pain

MOVE for HEALTH
PHYSICAL THERAPY

Physical Therapy Approach - Mind & Body Connection

- Diaphragmatic Breathing Patterns
- Function = Exercise + Activity
- Electrical Stimulation/ TENS
- Manual Therapy (Hands-On): Soft Tissue & Joint Mobilization
- Trigger Point Dry Needling
- Body & Mind Awareness
- Sleep/ Rest & Recovery Positions
- Move Well without Pain



“Rest & Digest” vs “Fight or Flight”

- **Diaphragmatic Breathing**

- “Palms-Up” (open posture) – 2 min cycle
- Breathe In/ Out through Nose in 4/7/8 ratio, 3-4 cycles
- Normal pattern is 2/4 with relaxed neck/ shoulders
- 90% of Pulmonary Capacity!
 - Engages **Parasympathetic Nervous System**
 - Aids metabolism, digestion, creative thinking
 - Feelings of “Calm,” “Relaxation,” “Body Awareness”
- Reverses Sympathetic Nervous System (Fight or Flight)
- Neck/ shoulder muscles are accessory - 10% reserve
- Decreases cortisol & epinephrine production
- Decreases HR & BP; muscular stress and tension
- Reverses feelings of “Fear, Anxiety, Stress”

Rest & Digest Strategies

Trigger Point Releases

- Tennis Ball Accupressure Technique (lying down or sitting)
 - <5-10 lbs of pressure with relaxation (no pain)
 - Sustained until trigger points release/ relax
- Enhanced body awareness & relaxation
- Perform before bedtime & periodically during the day
 - Prevent muscle tension, spasms, cramps
 - Body relaxation into pillow and mattress
- Incorporate Sleep/Rest Positions – individualized
- Trigger Point Dry Needling (TPDN)

Sleep Hygiene & Metabolic Recovery

7.5 hours/night: metabolic waste products removed in non-REM sleep via CSF and ISF

Circadian Biology - same sleep/ wake pattern 7 days/ week; natural light exposure (especially in AM)

Cool, dark, quiet bedroom; avoid screens & blue light

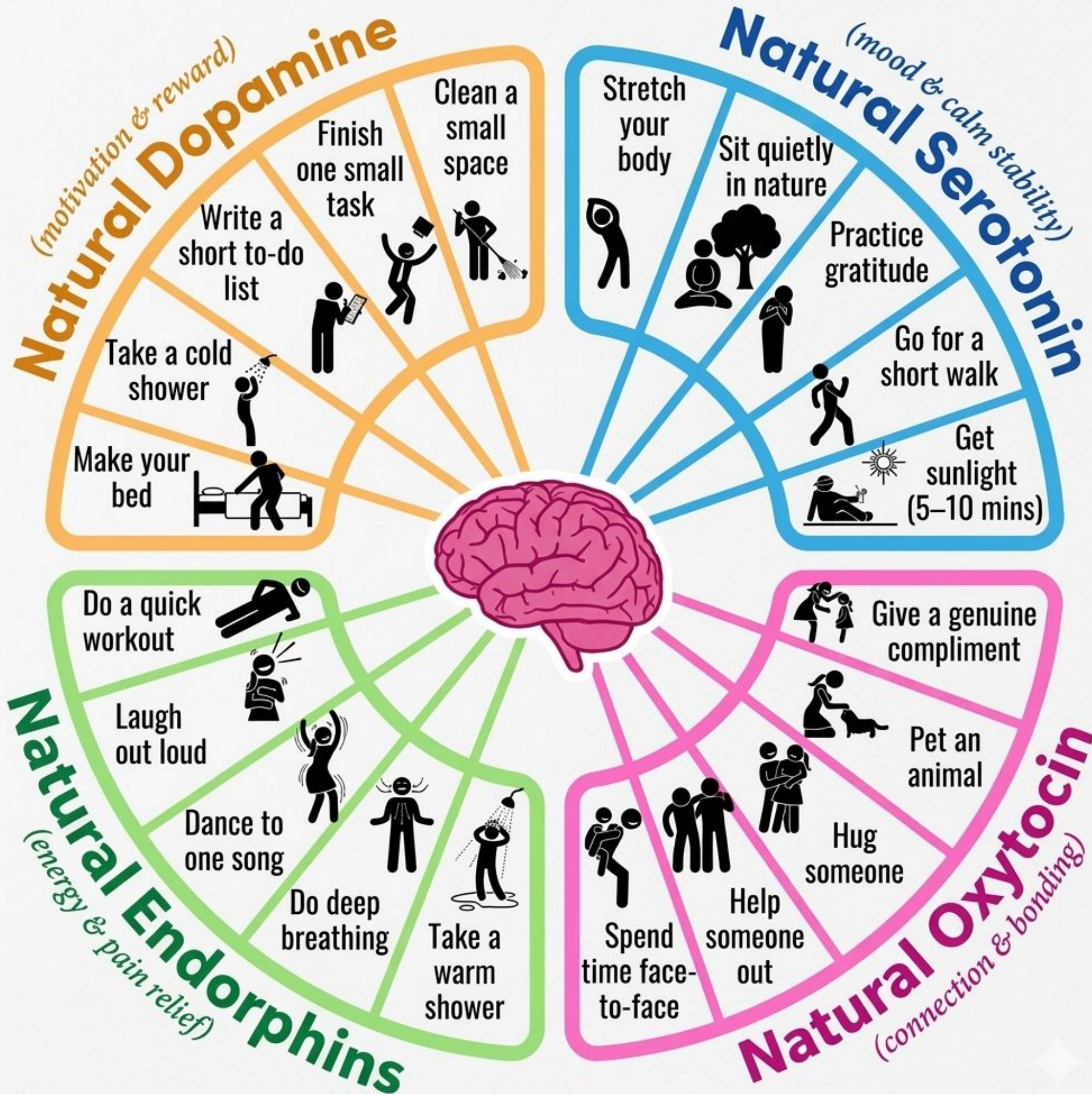
Regular pattern of exercise & meals

3 hours between last meal & bedtime

(+/-) Napping, <1 hour intervals

(+/-) Supplements: Melatonin & Magnesium Citrate

Sleep Apnea: 34% M and 17% W in US; home sleep test 80% Sp/ Sn



The Brain's Positive Reward for Function: Exercise + Activity

- **Dopamine/ Neurotransmitters**
- **Endorphins & Enkephalins**
 - **Euphoria**
 - **Natural pain killers**
 - **3-10X > Morphine**
- **Endocannabinoids**
 - **Alleviate pain, decrease anxiety, heighten senses**
 - **Moderate exertion/ endurance**
(no effect with low or high intensity)
 - **A Reward for Persistence**



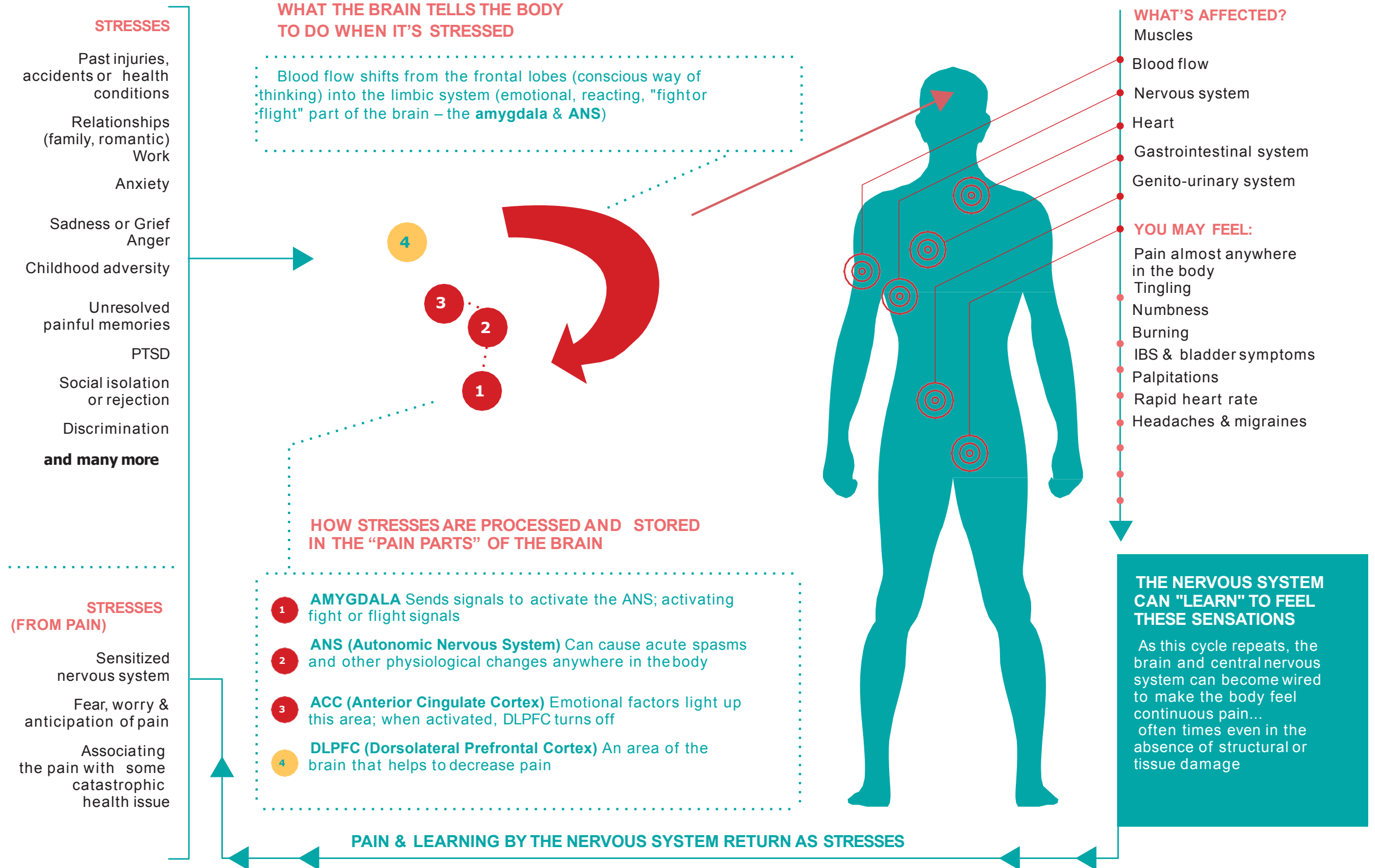
Human Movement – a Persistence Response

- **Endocannabinoid receptors in Amygdala & Prefrontal Cortex**
 - Reduce Anxiety & Stress Responses
 - Induce State of Contentment
 - Mood Elevation
 - Also in Dogs (“Human’s Best Friend”)
- **Increases Dopamine Production**
 - Feelings of Optimism
- **Enhances Social Connection**
 - Feeling Close to Others
 - Bonding, Sharing, Cooperating



Stress & Pain Responses

NEUROSCIENCE EXPLAINS HOW STRESS CAN FUEL PERSISTENT PAIN (Curable.com)



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PHYSICAL THERAPY

A hand is holding a wooden block with the text "LISTEN TO" in bold black capital letters. Below it is a stack of five more wooden blocks, each with text in bold black capital letters. The stack reads "SIGNALS FROM MIND & BODY". The background is a solid light blue.

LISTEN TO

SIGNALS

FROM

MIND

&

BODY

How Move for Health Physical Therapy @ The Center Can Help You...

**Injury & Wellness Consultation
Wellness B @ The Center**

Coordination with Your Physician

**1st & 3rd Tuesday of each month
9-10 AM**

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**MOVE for HEALTH
PHYSICAL THERAPY**



Move For Health Physical Therapy Group Classes

Thursdays: 9:30-10:30 AM & 7:30-8:30 PM
access via email invitation

Core Stability, Balance & Functional Movement
60-min ZOOM classes

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