

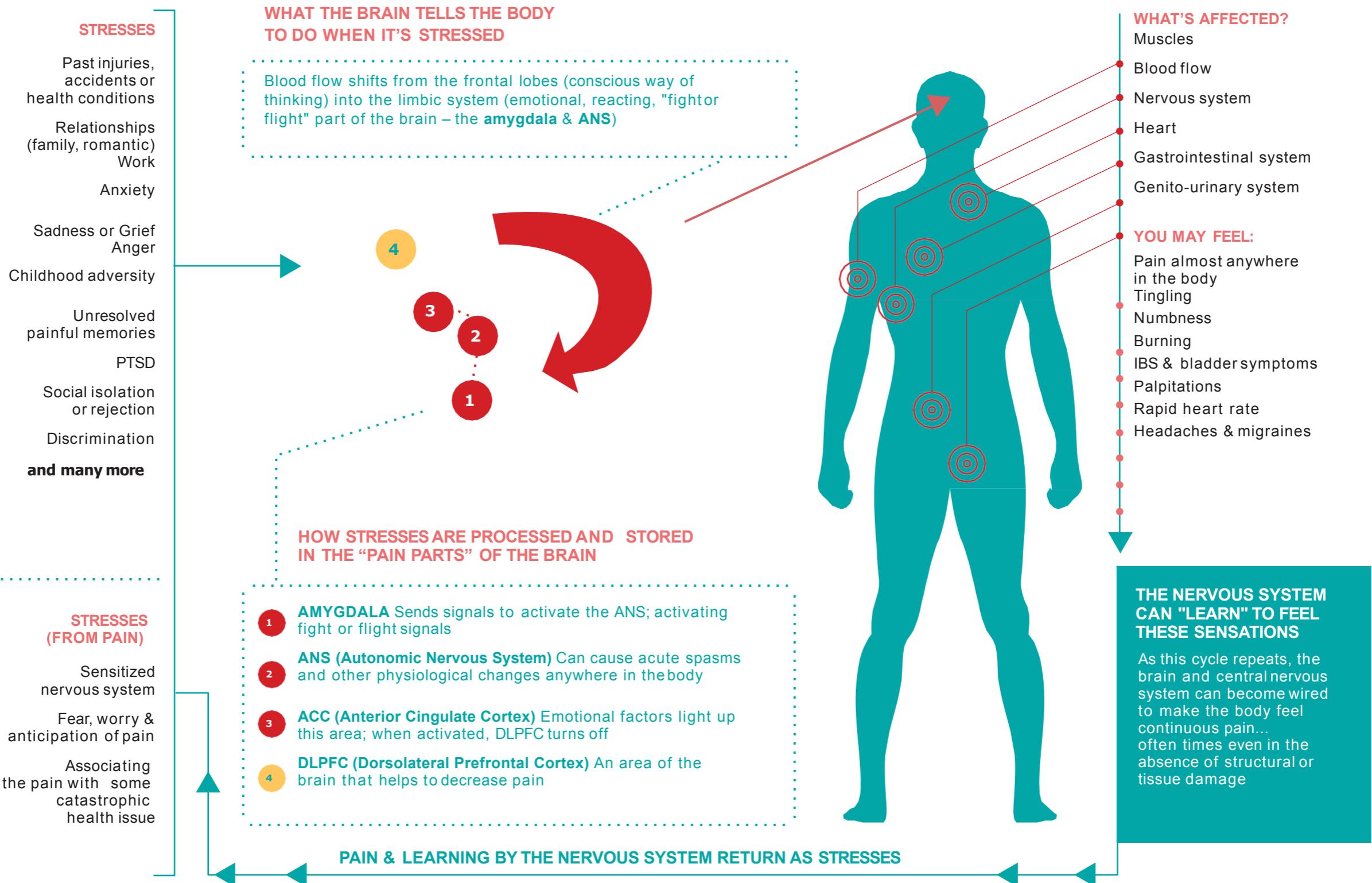
Pain Science - Human Movement & Pain

**Breaking the Cycle of Pain
In Your Body & Your Brain**

Darcy Higgins, PT, DPT
Doctor of Physical Therapy
Human Movement Specialist

A Cycle of Stress & Pain

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

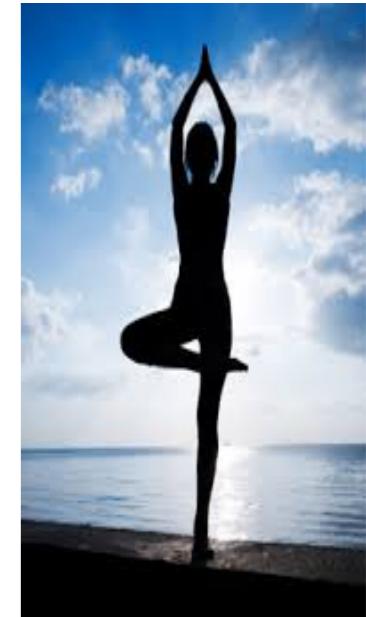


Physical Therapy - Tools & Strategies to Break the Cycle of Pain

MOVE for HEALTH
PHYSICAL THERAPY

Physical Therapy & Pain Management

- Instruction for Diaphragmatic Breathing Patterns, Exercise & Activity Prescription
- Modalities: Electrical Stimulation/ TENS, Vasopneumatic Compression, Ultrasound, Heat, Ice
- Manual Therapy (Hands-On): Soft tissue & joint mobilization
- Trigger Point Dry Needling
- Cupping
- Body and Mind Awareness
- Teaching You to Move Well!



Pain, Stress & Anxiety Management

- **Diaphragmatic Breathing**
 - Relax Neck/Shoulders
 - “Palms-Up” – 2 min cycle
 - Breathe In through Nose, Out through Mouth; 4/7/8 ratio
 - Engages **Parasympathetic Nervous System** – aids metabolism, digestion, creative thinking
 - Feelings of “Calm,” “Relaxation,” “Body Awareness”
 - **Reverses Fight/Flight Responses** – cortisol & epinephrine; decreases HR & BP; stress/tension/muscle tightness in extremities; sympathetic nervous system responses
 - Feelings of “Fear, Anxiety, Stress”

Pain, Stress & Anxiety Management

- **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)

Pain Management - The Brain's Positive Reward System for Exercise and Activity

- Dopamine/ Neurotransmitters

- Endorphins & Enkephalins

- Euphoria
- Natural pain killers
- 3-10X > Morphine

- Endocannabinoids

- Alleviate pain, decrease anxiety, heighten senses
- No effect with low or high intensity
- A Reward for Persistence



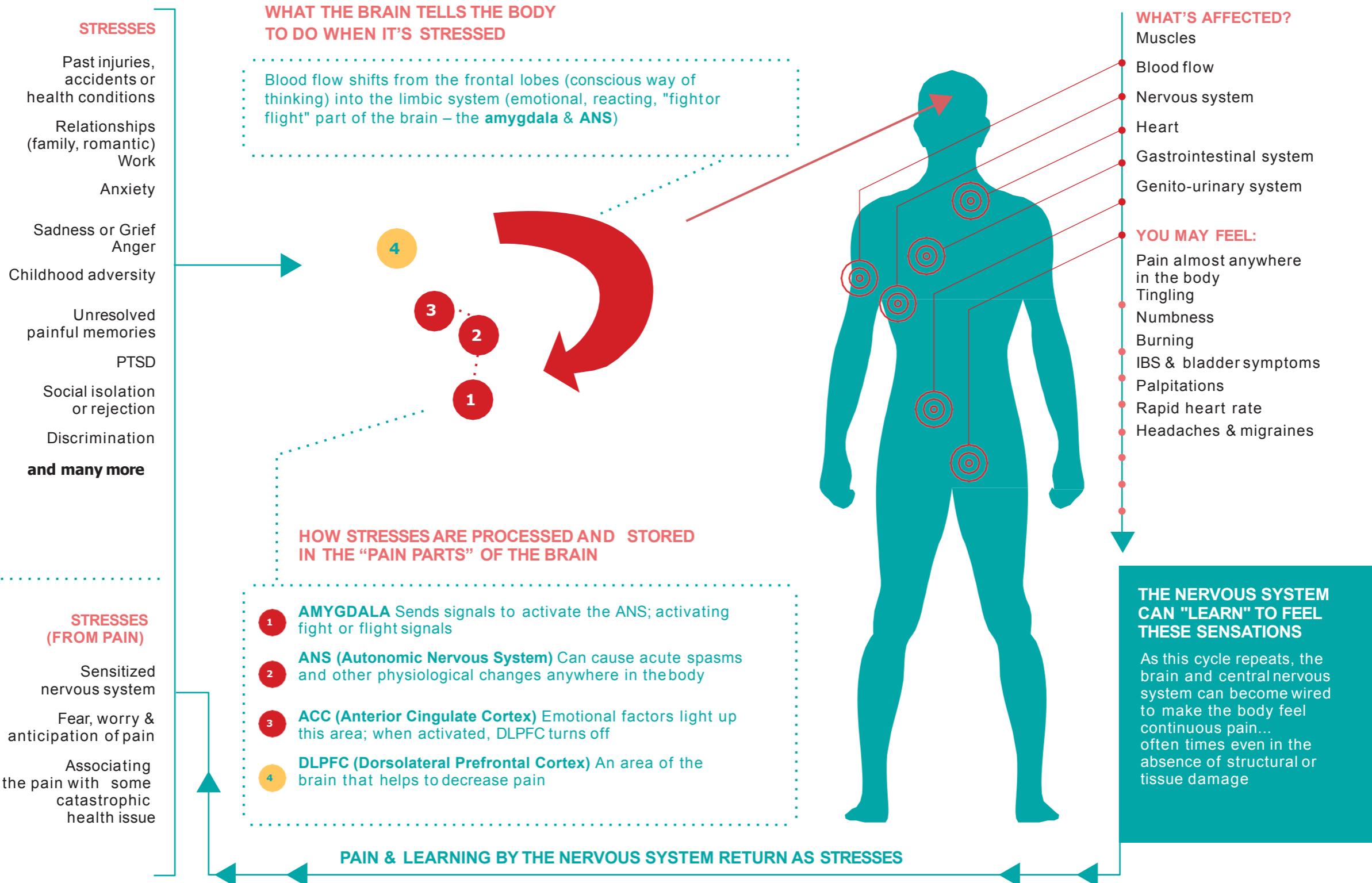
Human Movement – a Persistence Response

- **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



A Cycle of Stress & Pain

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Physical Therapy - Tools & Strategies to Break the Cycle of Pain

MOVE for HEALTH
PHYSICAL THERAPY

Complementary Injury & Wellness Screenings
1st & 3rd Tuesdays of each Month @ 9-10 AM

Healthspan Talks
2nd Tuesday of each Month @ 9-10 AM

Out-Patient Clinic @ The Center at Belvedere

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60-min ZOOM classes, once/week
Thursdays: 9:30-10:30 AM & 7:30-8:30 PM
(access via email invite)

Core stability, Body Awareness, Balance Training
Achieve Your Best Posture, Movement, Balance & Wellness

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PHYSICAL THERAPY