

The Doorway to Healing

reducing stress reactivity

What Is Stress Reactivity
What Can You Do About It?

Andrew David Shiller, MD







Chronic Stress

- Anxiety/
depression
- Pain/headache
- Job Performance
- Relationships
- Inflammation
- Chronic illness

What is Stress?

Definitions of Stress:

- The **stimulus** or event that produces the stress response
- The nonspecific physiology **response** of the organism to external demand or pressure

What Is stress?!

The stimulus?

Or The Response to The Stimulus?

Our culture blurs the distinction:

“That was stressful”

Stress is The Stimulus

“I feel so stressed and anxious”

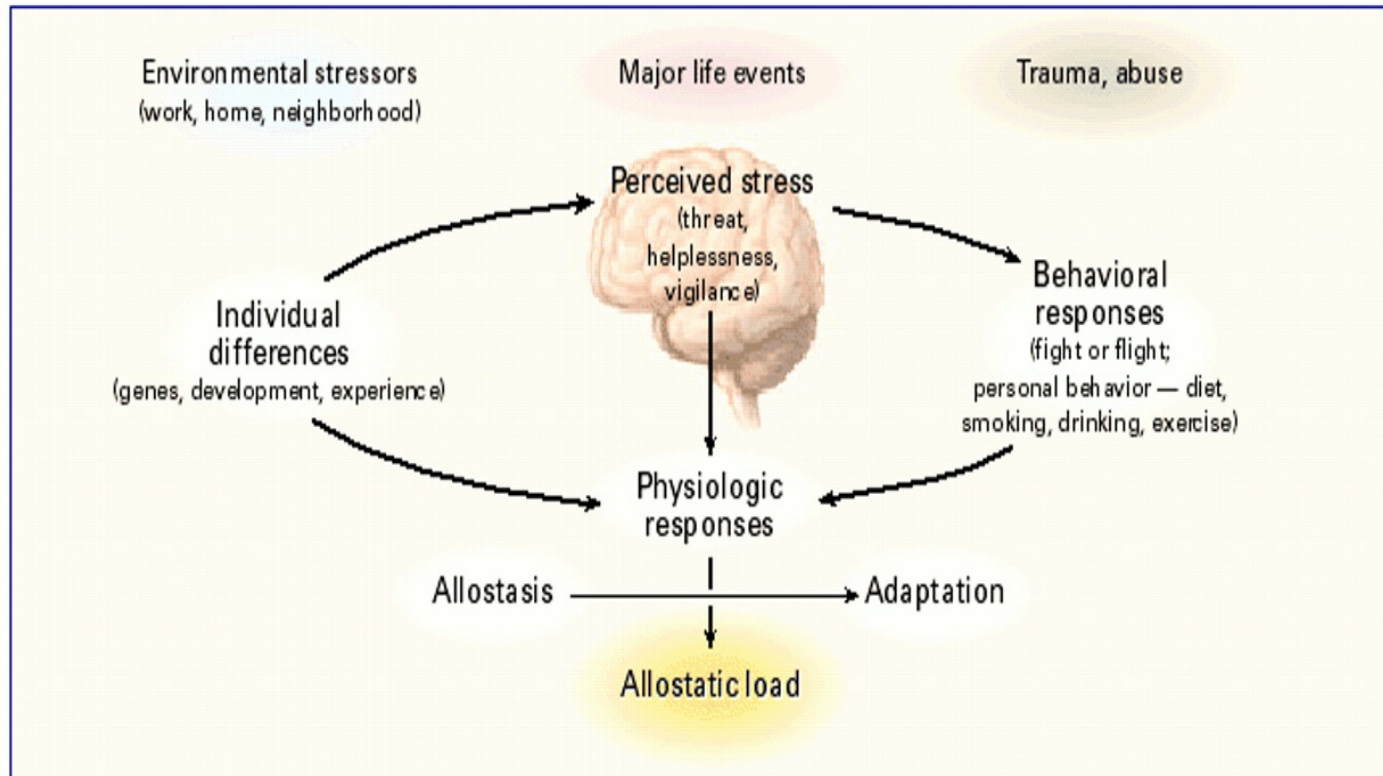
Stress is The RESPONSE to the Stimulus

What Determines If an Event is Stressful or Not?

- Does the person's mind-body **perceive** the stimulus as stressful?
- **Magnitude** of the physiologic stress response to the stimulus?
- Does the stress response **shut-off or persist**?
- How does the person **respond to recurrent** stimuli?
 - Adaptation, Habituation, Sensitization

genetic, conditioned, environmental, behavioral

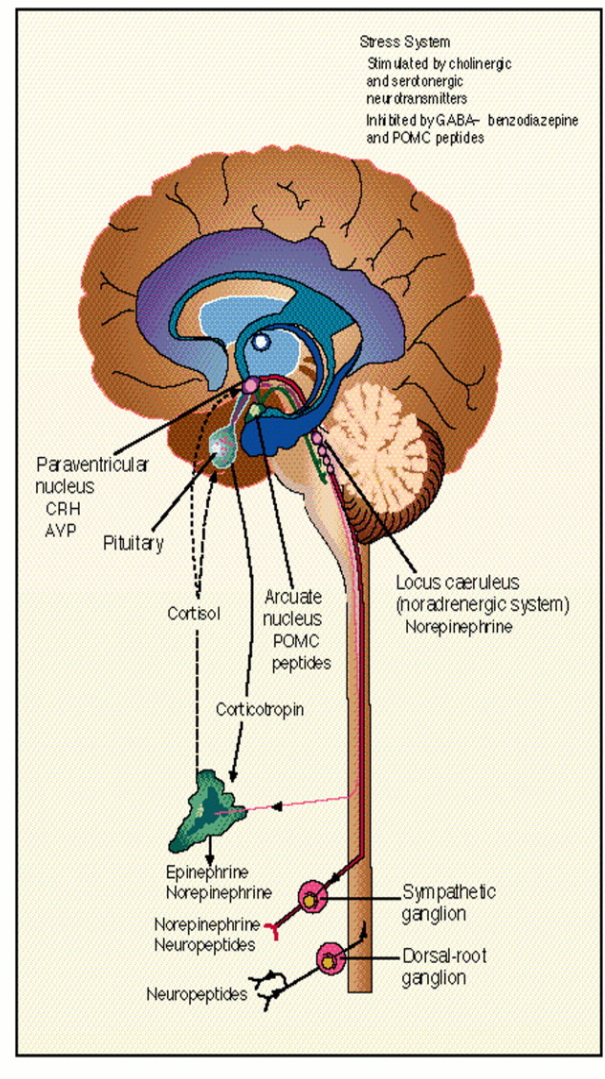
Stress, adaptation, and disease. Allostasis and allostatic load. McEwen BS. Ann N Y Acad Sci. 1998 May 1;840:33-44. Review.



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Stress Response Hormones

- Cortisol
- Epinephrine
- Norepinephrine
- Peptides



Autonomic Nervous System

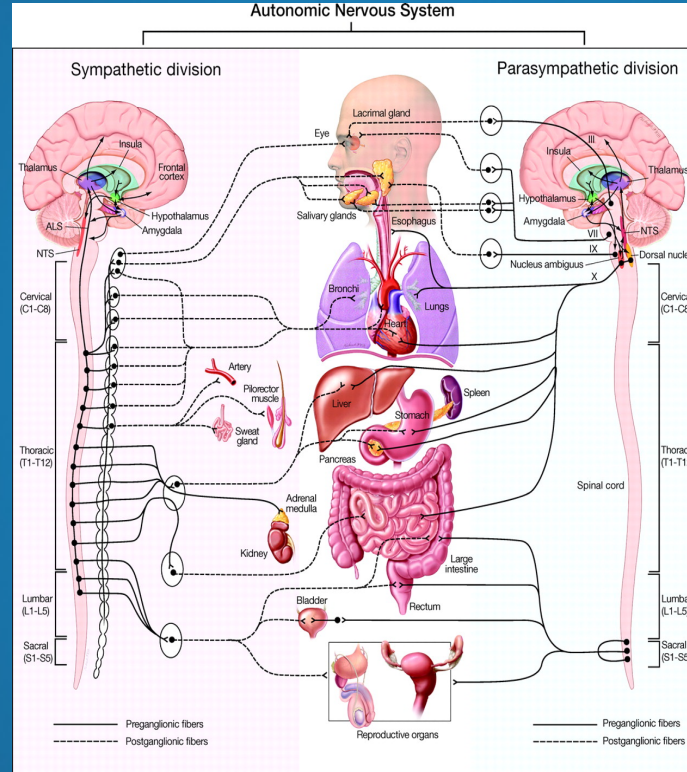
Allocation of Energy

Sympathetic Branch

Stress Response
Fight Flight Freeze
Get Up and Go

Parasympathetic Branch

Relaxation Response
Recovery and repair
Rest and Digest



Effects of Acute Stress Response

fight or flight

Prepare The Organism for Action

Brain: Increased arousal and vigilance

Sensation: Increased sensitivity

Endocrine: mobilize energy, stress hormones

Heart: Increased BP and Heart Rate

Lungs: Increased ventilation

Digestive: decreased secretions and motility

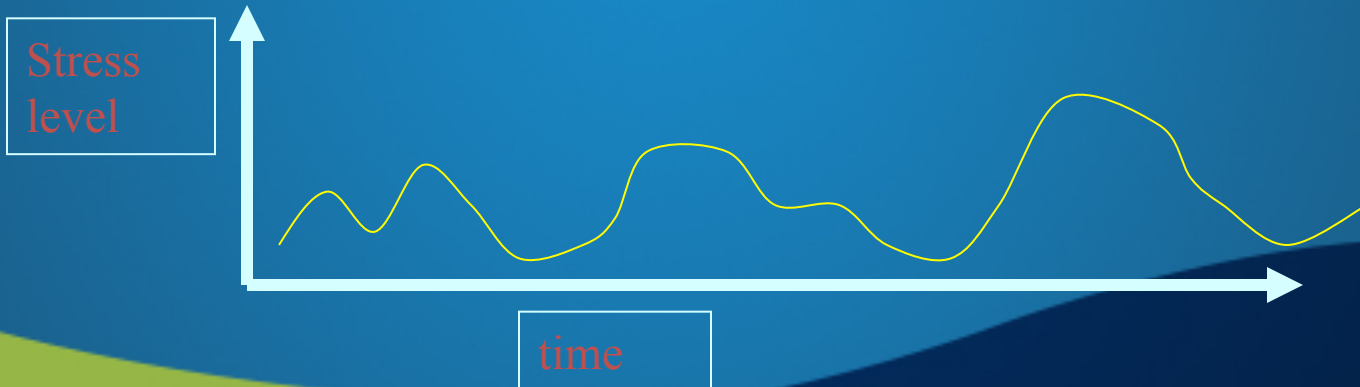
Neuromuscular: Increased reflexes, muscle tone/strength, and blood flow

Normal Cycle

A BALANCE OF STRESS AND RELAXATION

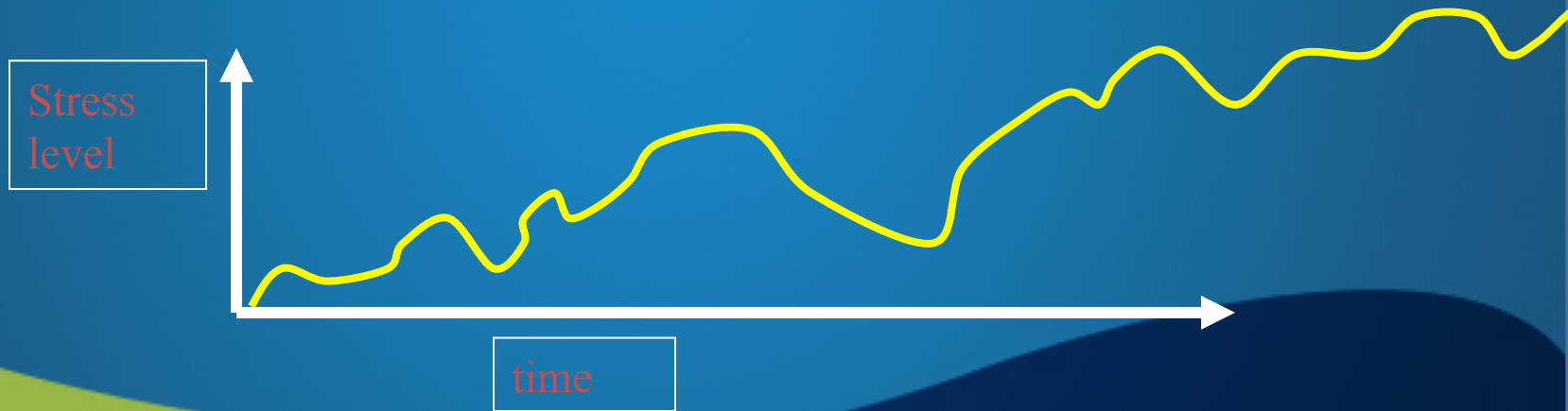
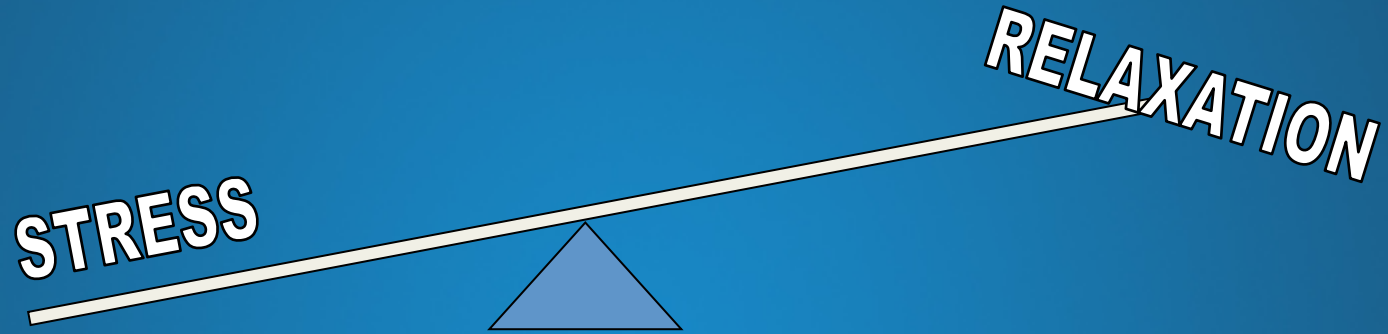
STRESS

RELAXATION



CHRONIC STRESS

Imbalance Of Stress And Relaxation



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Effects of CHRONIC Stress

Organs systems are interconnected. The yellow categories can be misleading.

Brain: Insomnia, irritability, anxiety/
depression, impaired learning, brain-fog?

Endocrine: dys-regulation of hormonal
systems

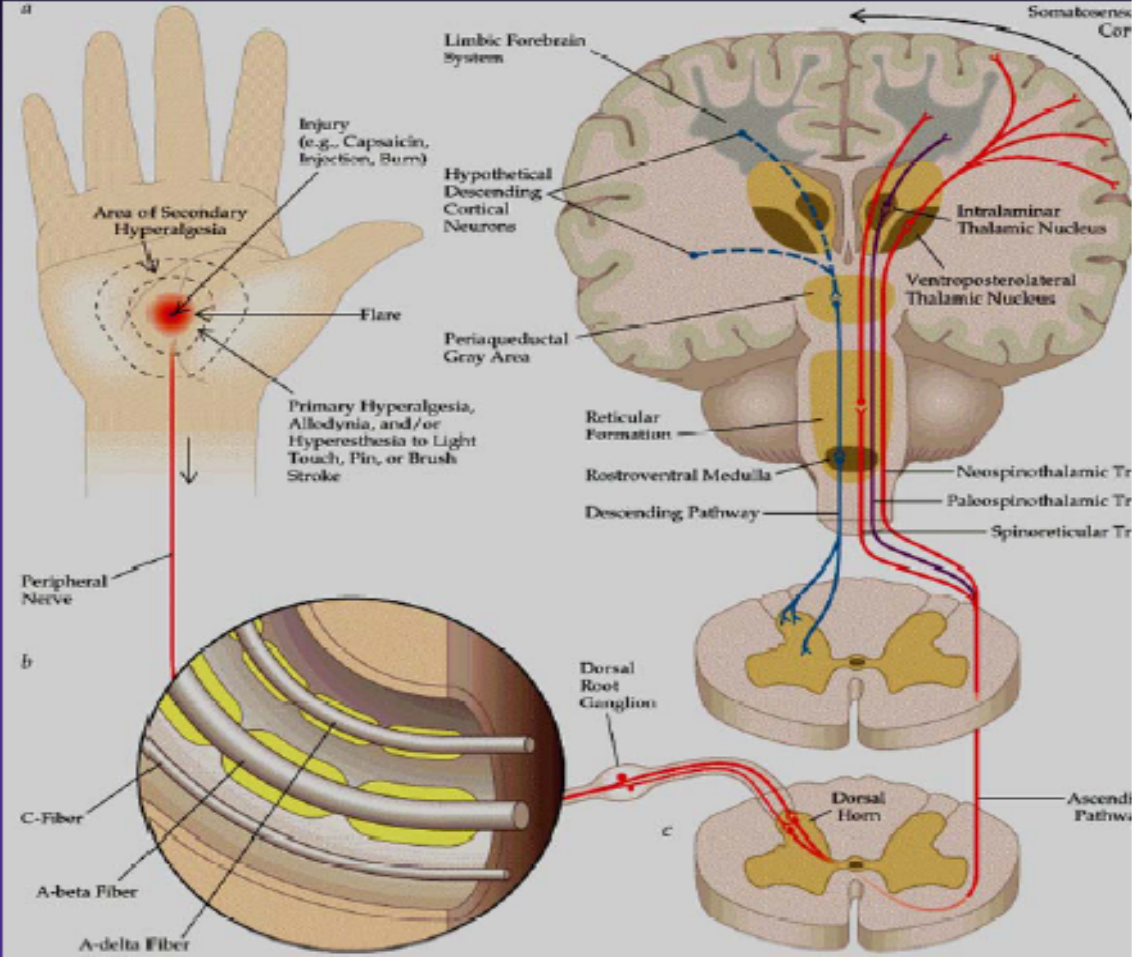
Heart: hypertension, arrhythmia,
coagulation issues

Digestive: intestinal permeability, constipation,
motor problems like IBS, inflammation

Neuromuscular: Tight muscles, cramping, pain

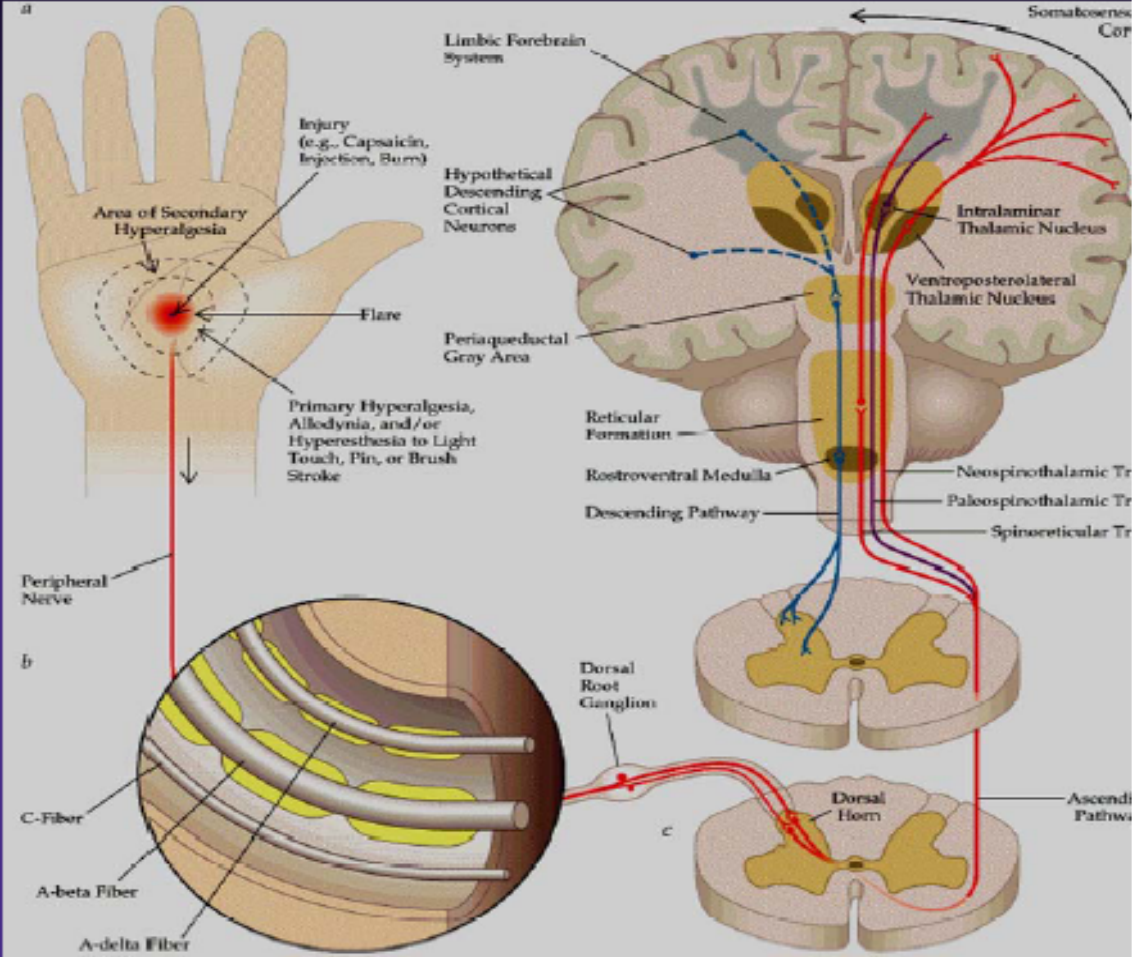
Sensation: increased pain transmission,
increased somatic symptoms

Bladder: irritable bladder



Pain Processing System

- Ascending Pathways
- Descending Pathways
- Multi-step signal processing from nociception to perception
- Sensory-Discriminative
 - NeoSpinothalamic
- Affective-Motivational
 - PaleoSpinothalamic



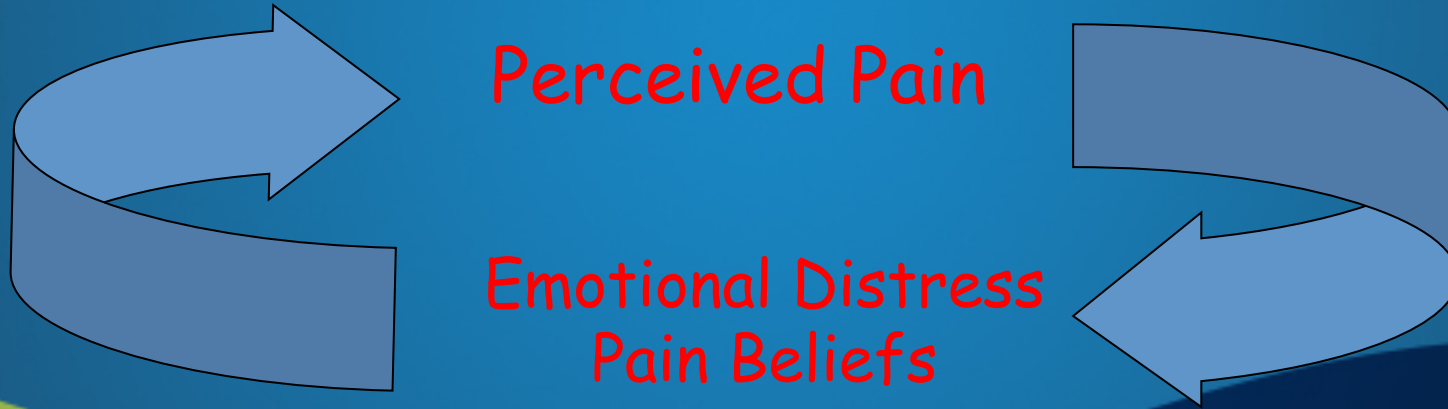
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Affective Motivational Pathway

integration of pain and affect

- Pain modulates emotional experience
- Emotional experience modulates pain



So What Do We Do About Stress Reactivity?



- Learn MindBody Skills
- Drop your preconceptions and use a different part of your brain

Mind Body Skills?



- Calming—**Relaxation**
- Play of Perception Skills—**Mindfulness**
 - Thoughts, Emotions, Body Sensation
 - Master the Inner Voice

Mind Body Skills 2

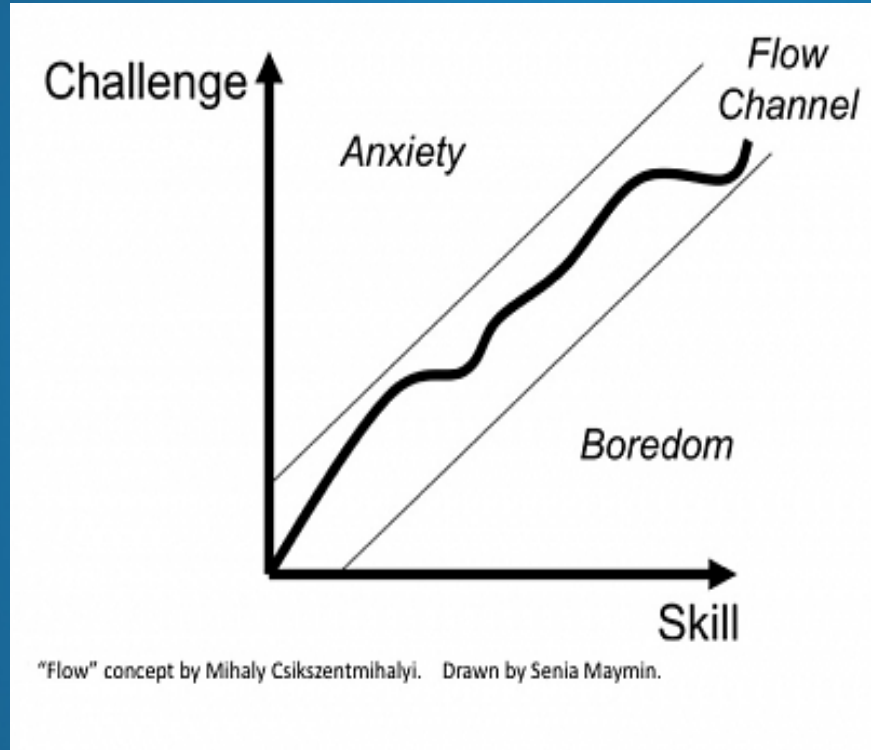


- Constructive **Appraisal and Understanding**
 - Modulate Stress/Relaxation Response
 - **Choose responsiveness to stimulus rather than reactivity**
- Opportunity to Choose: Challenge vs. Threat

So What Do We Do About Stress?

- Inner voice—monkey mind—see the trip we are on
- Check out the science
- Go to facebook group
- Sign up for my list
- Take action—learn mindbody techniques
- Call it meditation but it's not kumbaya
 - Its serious mind training
 - Scientifically based anyone can do it
- Just reading about it can't help you
 - Start
 - Start small
 - 5-10 minutes a day is a good start
 - One minute counts
 - Aim for daily

Getting into the Flow





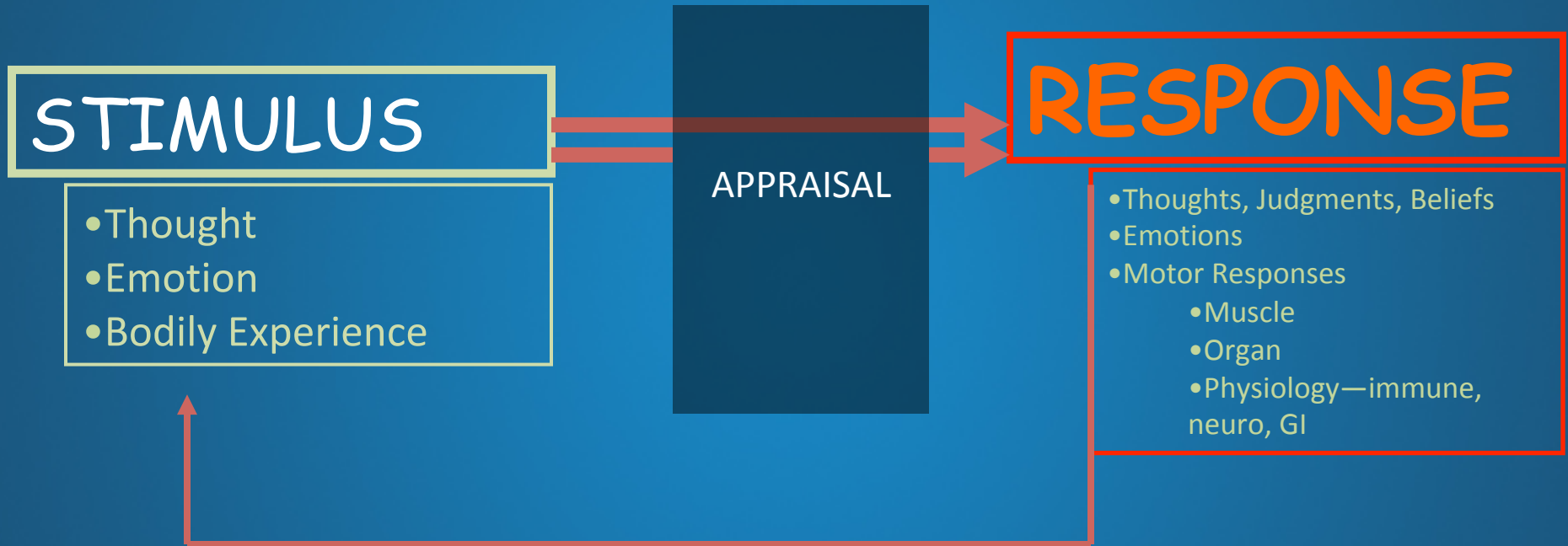
STRESS

STIMULUS

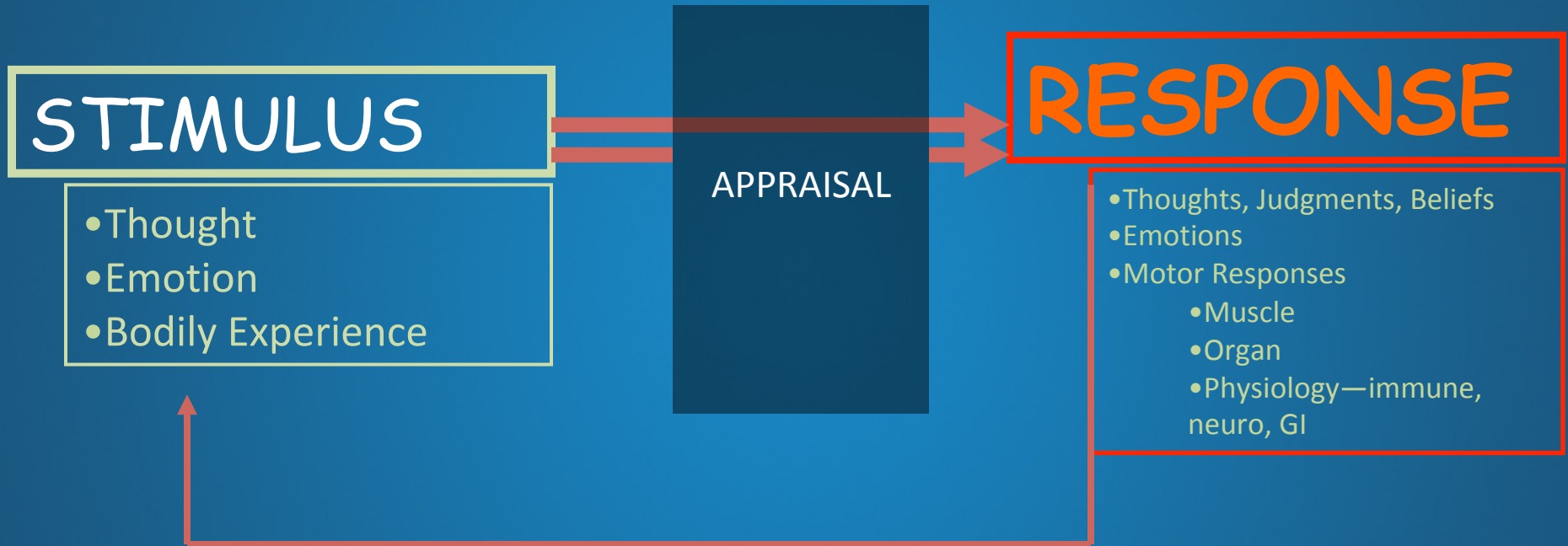
RESPONSE



What Can We Do About Chronic Stress?



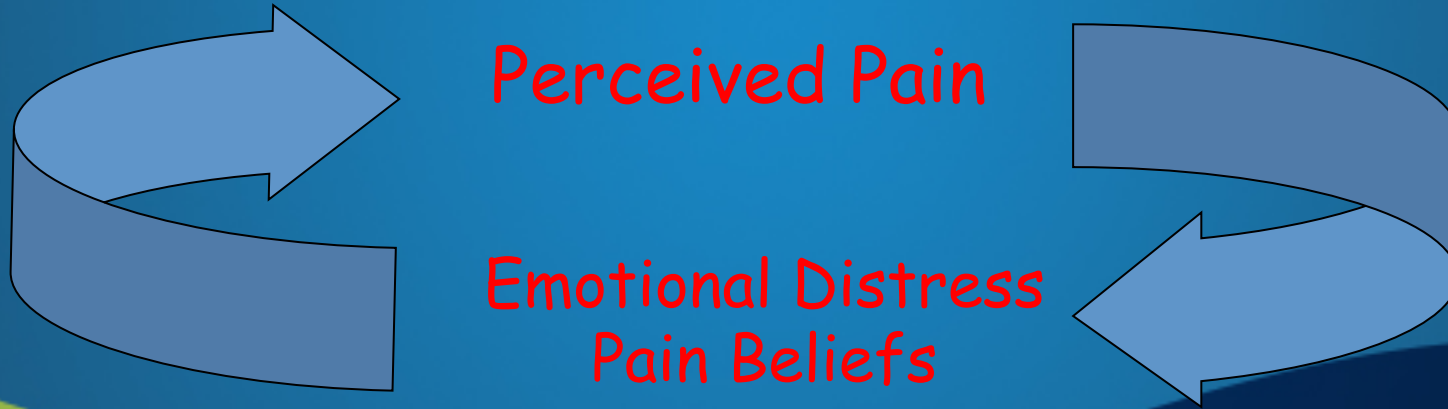
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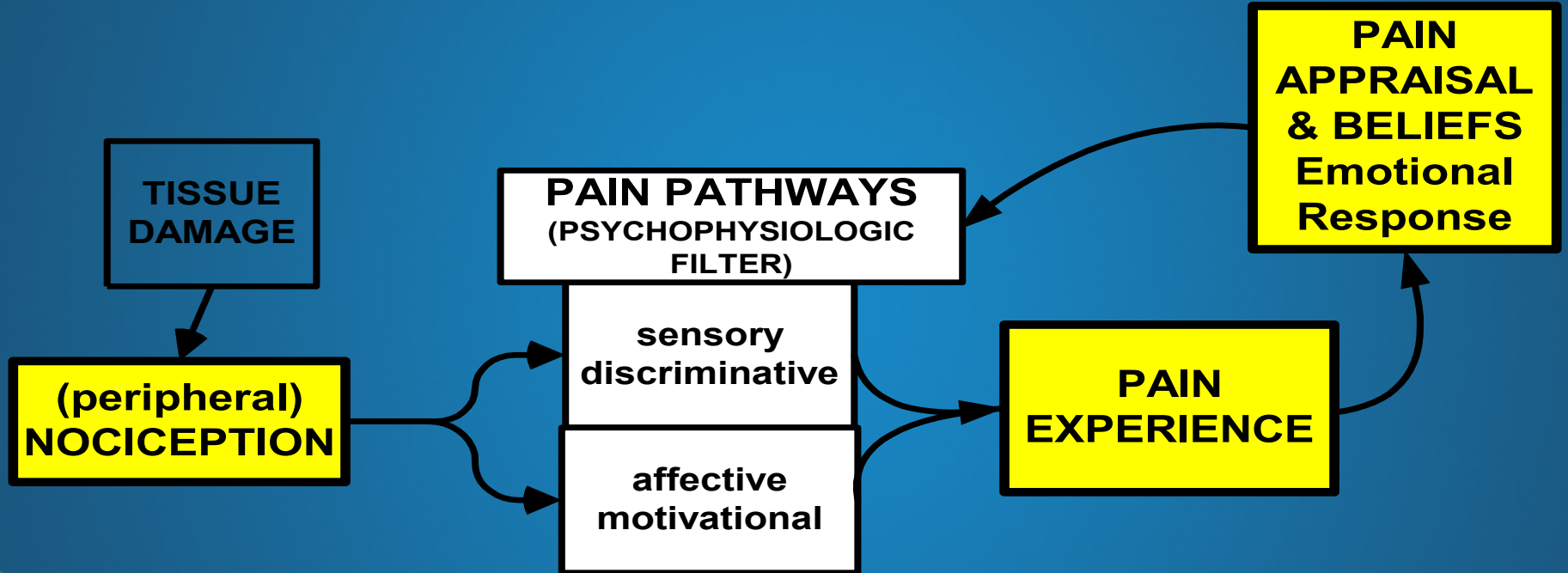
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Pain Processing



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- McEwen's picture?