KATHLEEN KELLEY Coaching

Combat Stress with Neuroscience and Practical Tools

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- Physical Therapist X 37 Years
- Professor of Physical Therapy X 30 years
- Certified Yoga Teacher, Meditation Teacher, Life Coach



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By the end of the workshop, students will:

- Understand the relationship between stress and burnout
- Apply knowledge of neuroanatomy and neuroscience to respond to stress (and prevent burnout)
- Practice practical tools to regulate the nervous system
- Have a great time ☺

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STRESS: My philosophy

- Causes: Multiple
- Cures: No such thing, no such thing as “managing” – Deciding how to respond
  - “Make a choice that is reflective rather than reflexive”
- Coping: What is best FOR YOU

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Stress: 3 stages

1. Temporary: Initial stress, short burst, *RELEASE AND RECOVER*

2. Temporary: NOT released after the initial short burst → Starts to become harmful

3. CHRONIC Stress: Constant state of heightened alert

Chronic stress → Burnout

(Leaf, 2009)

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BURN OUT

- DEF: Burn Out: Feeling empty and mentally exhausted, devoid of motivation, and beyond caring
- What causes burnout?
  - Emotional exhaustion
  - Depersonalization
  - Low personal accomplishment
- Staying in chronic stress prevents us from ACTION ➔ The body shuts down

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The Neuroscience of Stress

- Stress happens to everyone
- Every thought triggers this process:
  - Electrical impulse ➔ Chemical reaction ➔ Neuronal transport
- As thoughts grow, dendrites grow ➔ The more we think a thought, the easier it becomes to "see" it as TRUTH.
- Positive thoughts: Endorphins and serotonin
- Negative thoughts (Toxic): Cortisol & Adrenaline (from activating the HPA-Axis) … 30 other hormones and neurotransmitters
- What we focus on GROWS

(Leaf, 2009; Lipton, 2015)

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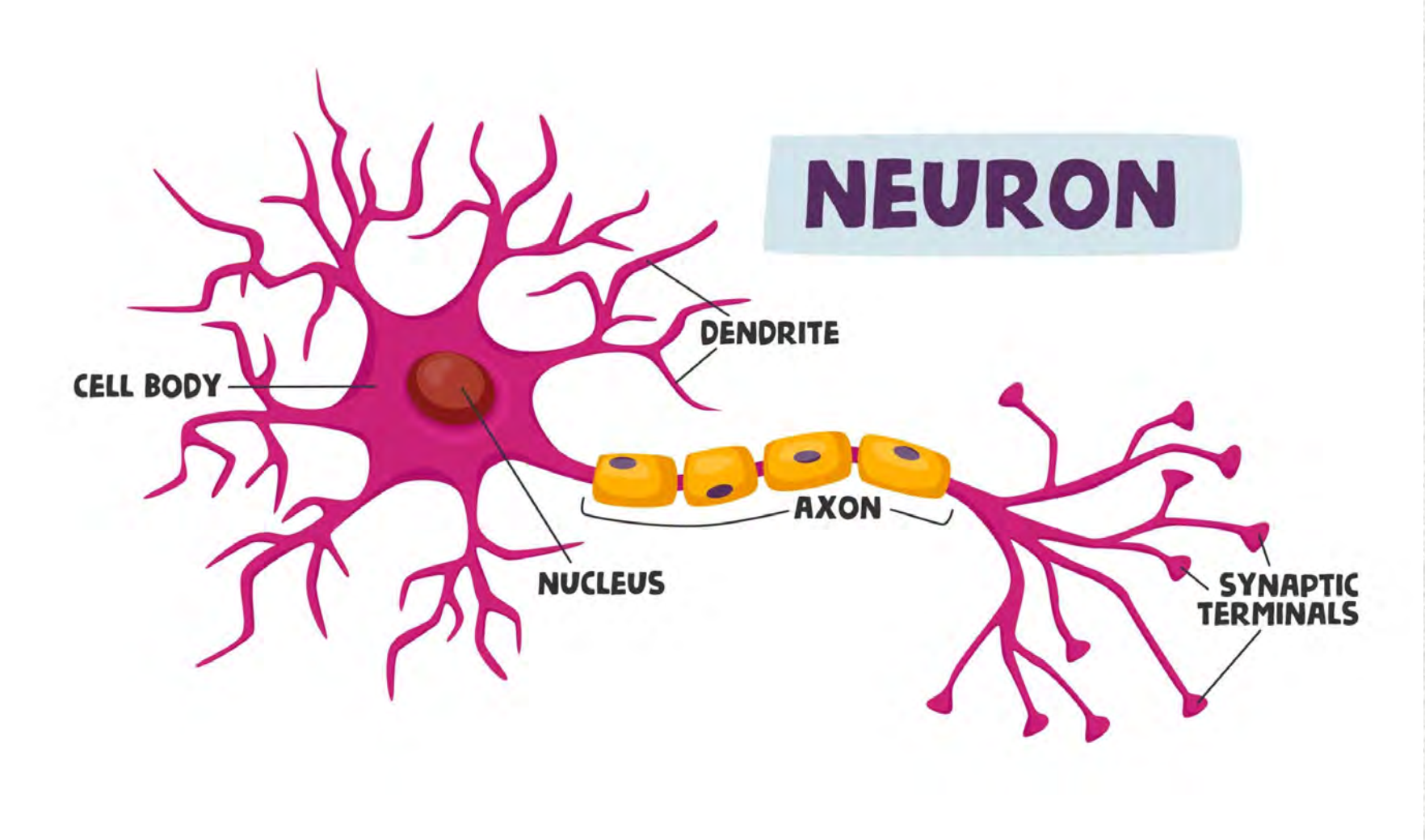

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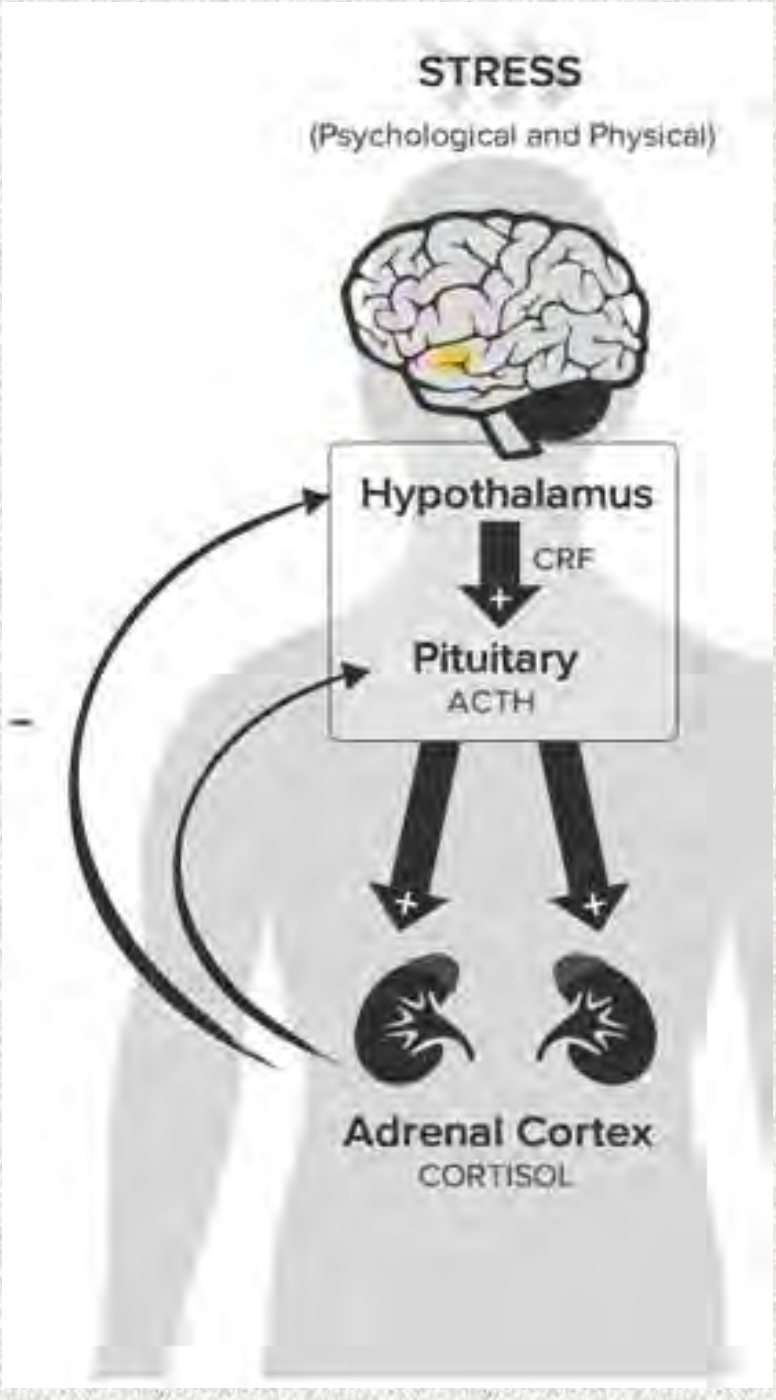
HPA axis

- Major part of the neuroendocrine system
- Controls reaction to stress and regulates body processes:
  - Digestion
  - Immune Response
  - Mood and Emotion
  - Energy storage and expenditure



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Hypothalamus: Part of the Limbic "Cortex"

- Cingulate Gyrus – Motor responses to emotion
- Hippocampus - Memory
- Amygdala – Physical and emotional responses to stress
- Olfactory cortex- Emotional & motivational aspects of olfaction
- Thalamus – Data integration
- Hypothalamus- Homeostasis
- Basal Ganglia – Motor planning related to limbic drives
- Others

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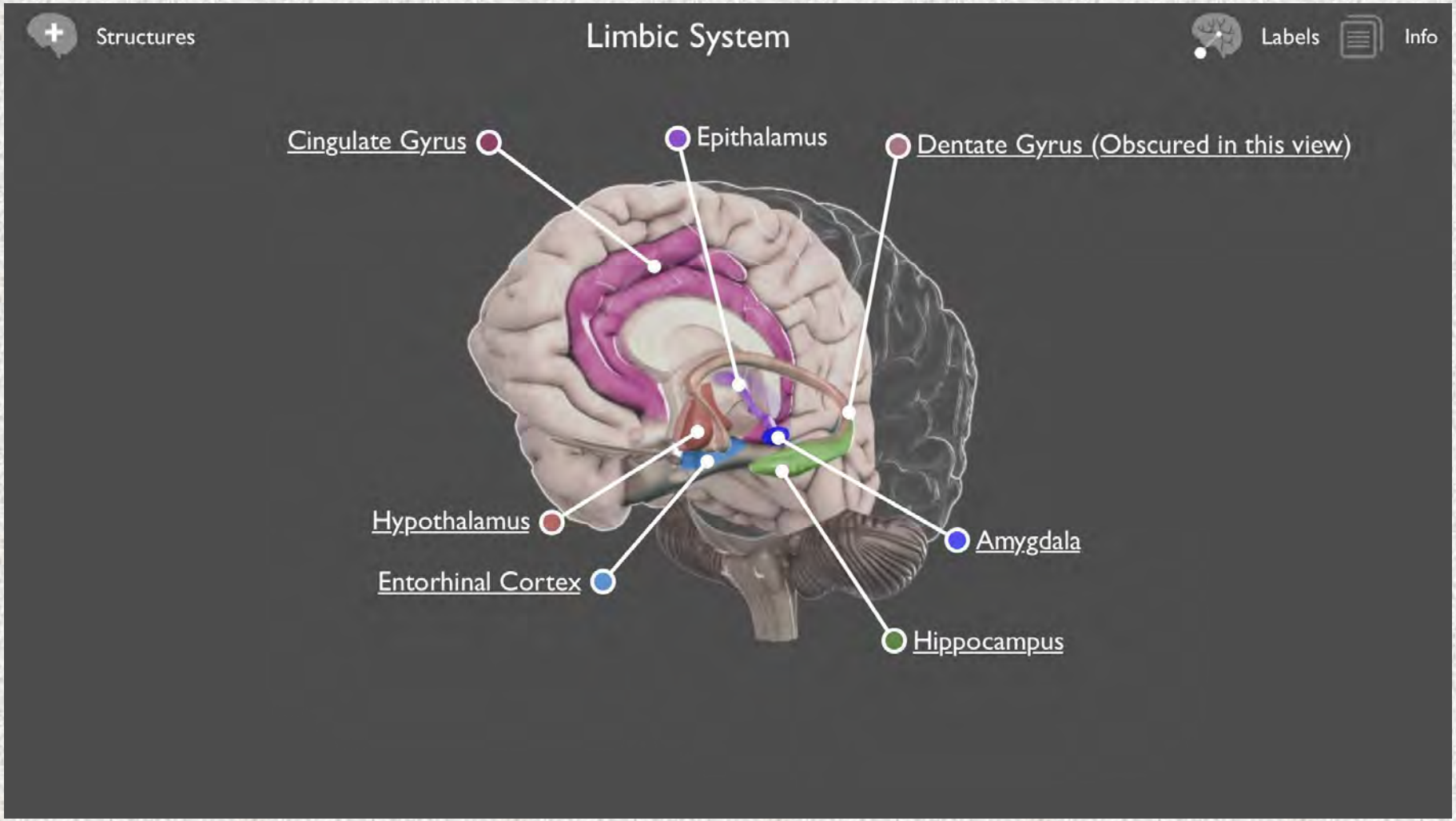

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The brain on stress

- Toxic thoughts create stress in the body
- This stress compromises multiple systems: Immune, cardiac, and digestive

- The Brain does not have access to its best "self" → Pre-Frontal Cortex

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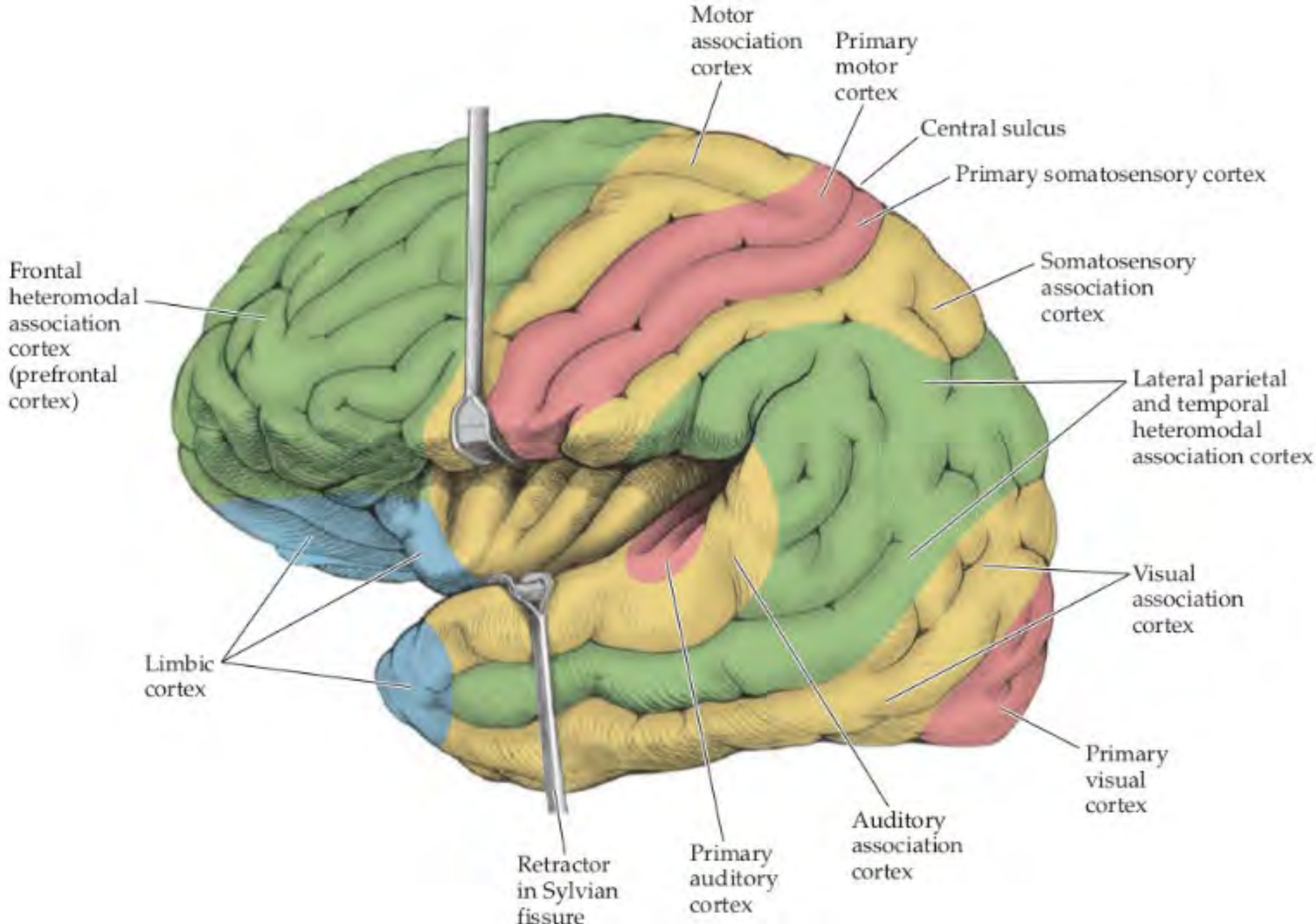
Pre-Frontal Cortex

- Newest part of the brain
- Energy hog
- “Seat” of humanity
- Will be “overwhelmed” by the Limbic System when we are under “duress”

- Pre-Frontal cortex and Limbic Sytem


Motor association cortex
Primary motor cortex
Central sulcus
Primary somatosensory cortex
Frontal heteromodal association cortex (prefrontal cortex)
Somatosensory association cortex
Lateral parietal and temporal heteromodal association cortex
Visual association cortex
Limbic cortex
Primary visual cortex
Auditory association cortex
Primary auditory cortex
Retractor in Sylvian fissure

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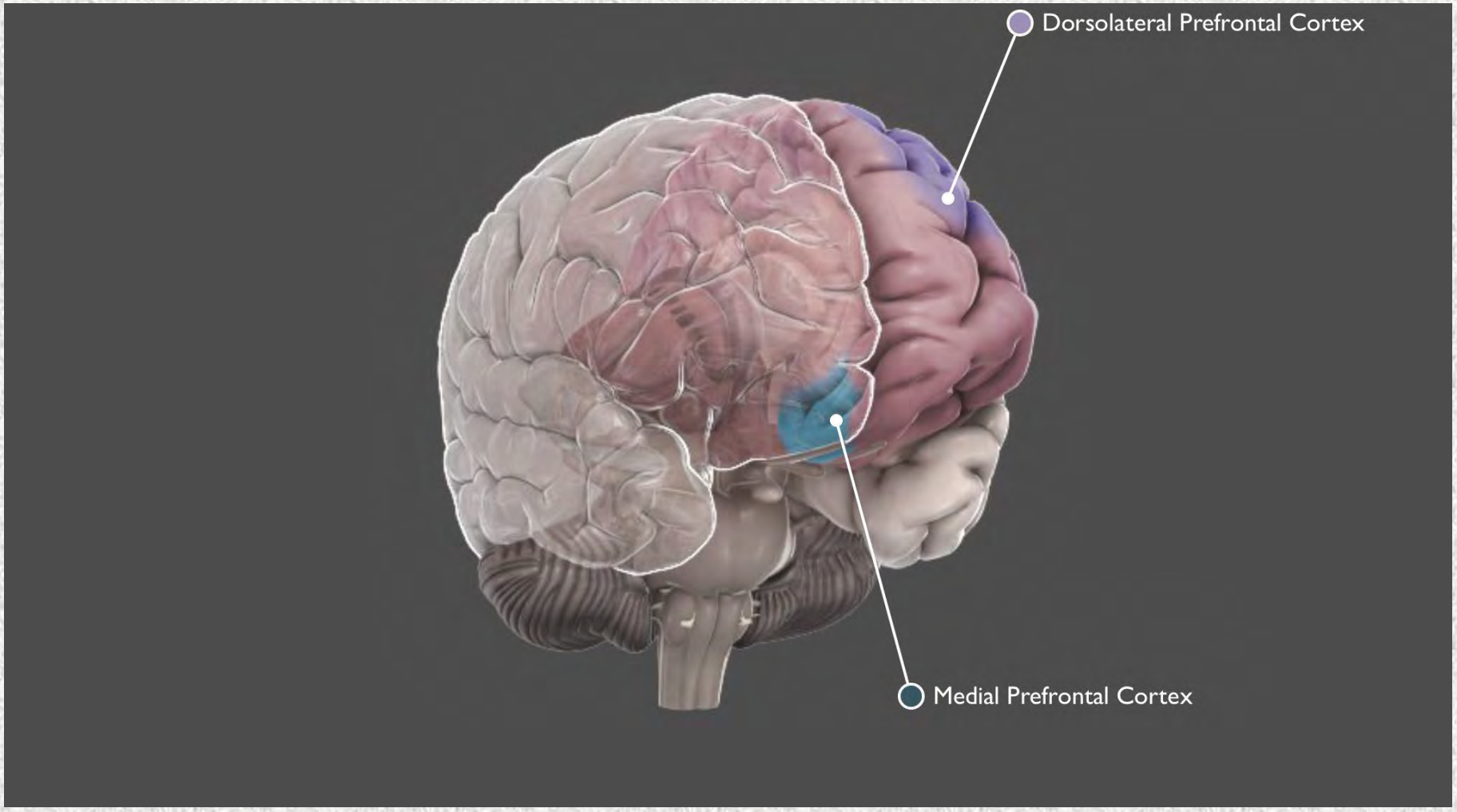

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Summary

- Stress with recovery → Serotonin, regulation, resilience
- Stress without recovery → Overwhelm
  - A chronic state of Overwhelm → Burnout

- Body needs rest and recovery BEFORE you can “think” of a plan to restore your well being (“Thinking” → PFC)

- “Well Being”: Body/Mind/Spirit

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Thinking V. Being….Brain V. Body?

- Adversity lives in the body, but what we make it mean lives in the brain

- During dysregulation, the primitive part of our CNS takes over, effectively shutting us off from our humanity

- During times of regulation, we have access to the PFC ➔

Make a choice that is **REFLECTIVE,** not REFLEXIVE

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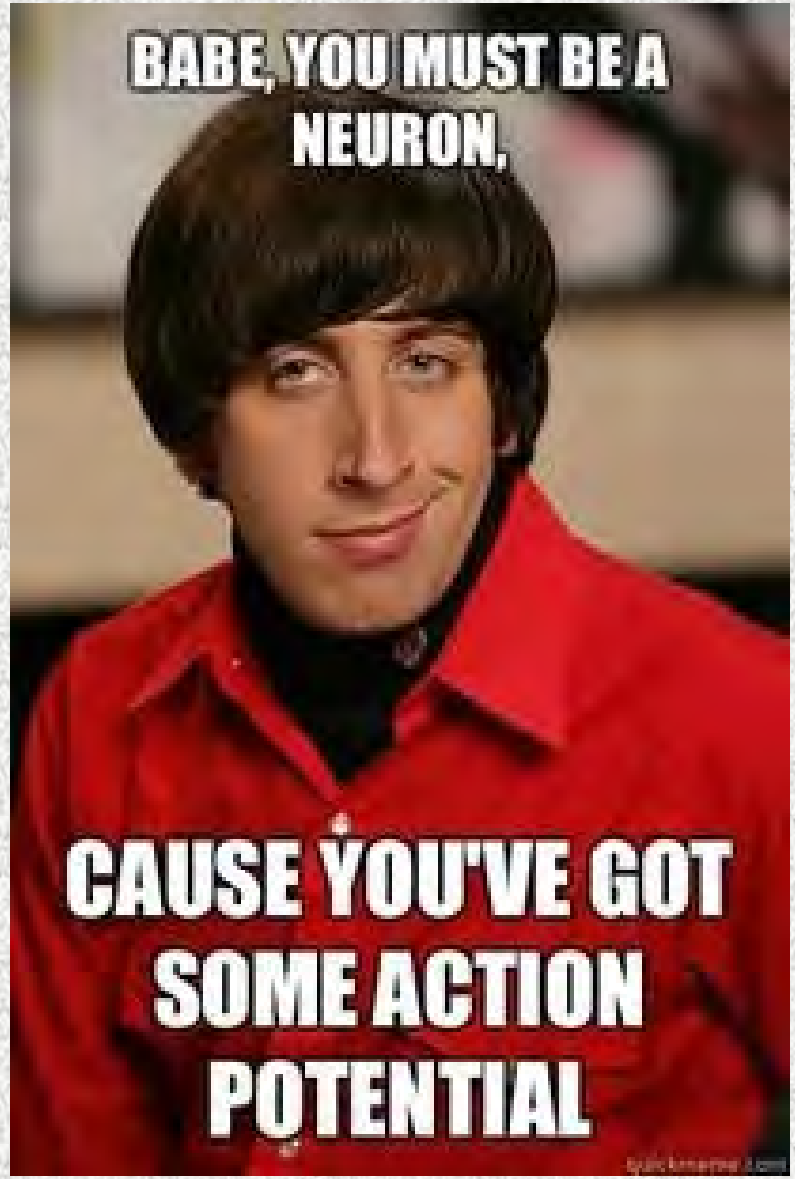
QUESTIONS?



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How to Create Change

- Pranayama (Breath work)
- Thought work & Questions



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Tool #1: Pranayama (Breath)

- At rest, the average breath uses about 1/3 of the total capacity of the lungs
  (Kaneko & Horie, 2012)

- Natural breathing patterns are being disrupted
  (TMHS, episode 491)

- Subpar breathing creates problems throughout the body
  (McKeown, 2021)

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Tool #1: Pranayama (Breath)

- Take a DEEP Breath, not a BIG breath, with good posture, through your nose (mouth is CLOSED!)

- A deep breath (Zaccaro et al, 2018; Chen et al, 2016):
  - Decreases HR/ Increases HRV
  - Creates changes in the EEG
  - Increases activity in the PFC (and other areas…but I digress)
  - Promotes feelings of calm and relaxation
  - Decreases scores on Beck Anxiety Inventory

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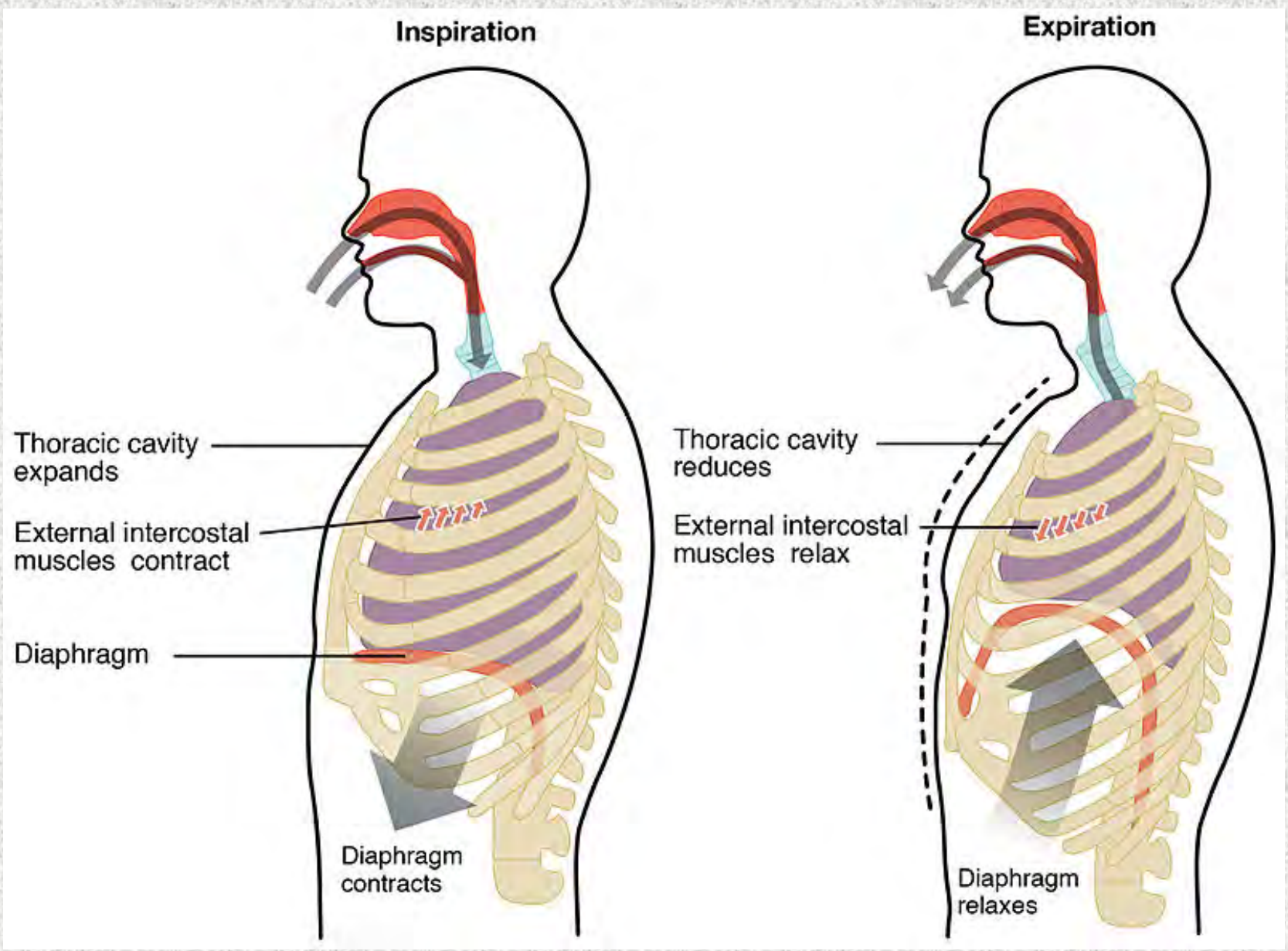
Breath: Diaphragm



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Tool #1: Breath

- Deep Breath
- 4 - 7- 8 (Weil, A.)
- (3) part breath



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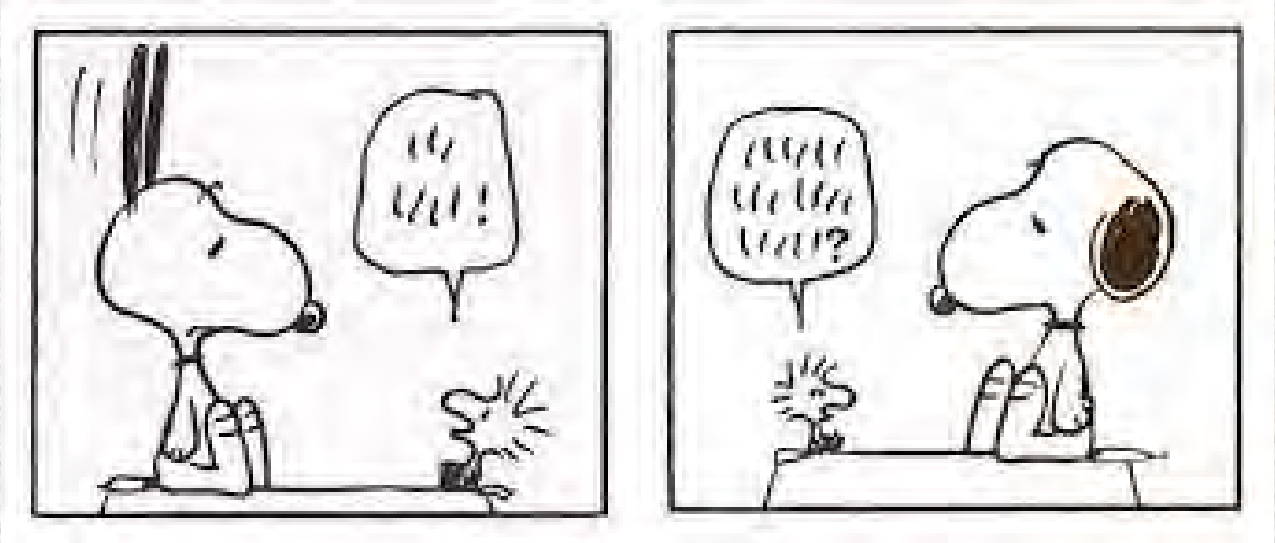
Tool #2: Thoughts



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Tool #2: Thoughts ➔ The 10 second PAUSE

- **Notice** what you are thinking, especially the regular, constant thoughts

- Pause
- Am I safe? HOW?

- Is it true? How is it NOT TRUE?

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Tool #2: Thoughts ➔ Ask Empowering Questions



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Tool #2: Thoughts ➔ Ask Empowering Questions

- Instead of “How am I ever going to get this all done?”
  - “How can I prioritize my day?”
  - “How can I delegate?”
  - “What can wait?”

- “Why am I STILL doing this? This is not why I got into healthcare.”
  - I got into health care to serve, “How can I serve today and still honor myself?”

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Tool #2: Thoughts ➔ Thought Banks and Coaching

- Create a thought bank
- Change habitual negative thoughts
- Work with a Coach

C: Circumstances

T: Thoughts

F: Feelings

A: Actions

R: Results

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Tool #2: Thoughts

- 10 second Pause
- Ask Empowering questions & create a thought bank
- Get coached!



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TOOLS for YOU

- Pranayama (Breath work)
  - Deep breath
  - 4-7-8
  - 3-part breath
- Thought work & Questions
  - 10 second Pause
  - Ask empowering questions
  - Create a thought bank with a coach ☺

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Thank you and Questions

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