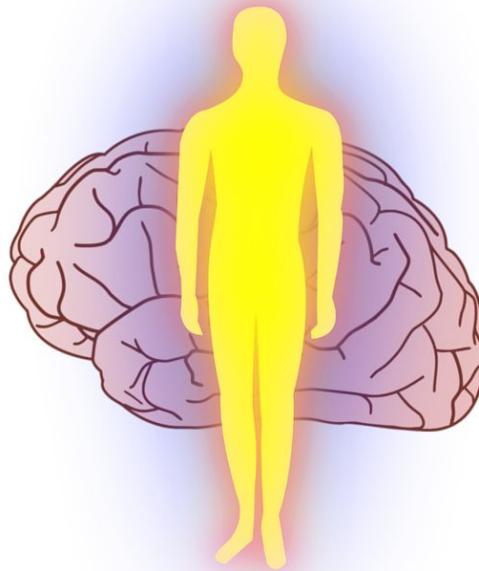


# The Science of Mind Body Integration

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# Science of Mind-body Integration

- What happens in the mind affects the body
- What happens in the body affects the mind



# AUTONOMIC NERVOUS SYSTEM

- Relates to function of internal organs & most concerned with body's response to stress
- Regulates body processes that are automatic - heart rate, breathing, blood pressure, muscle tension
- When out of balance adaptations occur in body

# Autonomic Nervous System



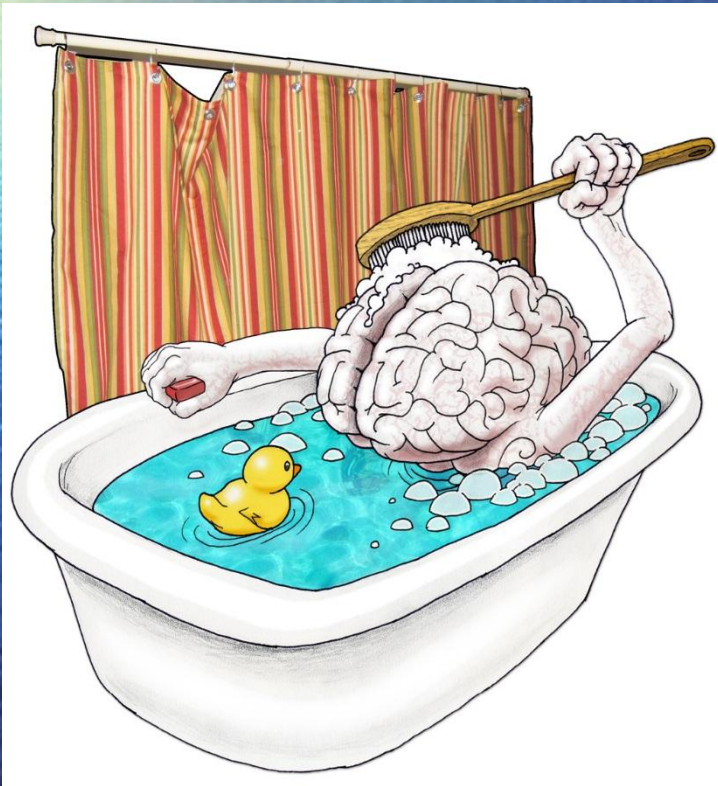
## **Sympathetic (gas pedal)**

- Body mobilized for action
- Increased heart rate, BP, muscle tension
- Faster/shallow breathing
- Tunnel vision/acute hearing
- Cold hands & feet
- Inhibited digestion
- Ideal: Active, alert
- Fight or Flight

## **Parasympathetic (brake pedal)**

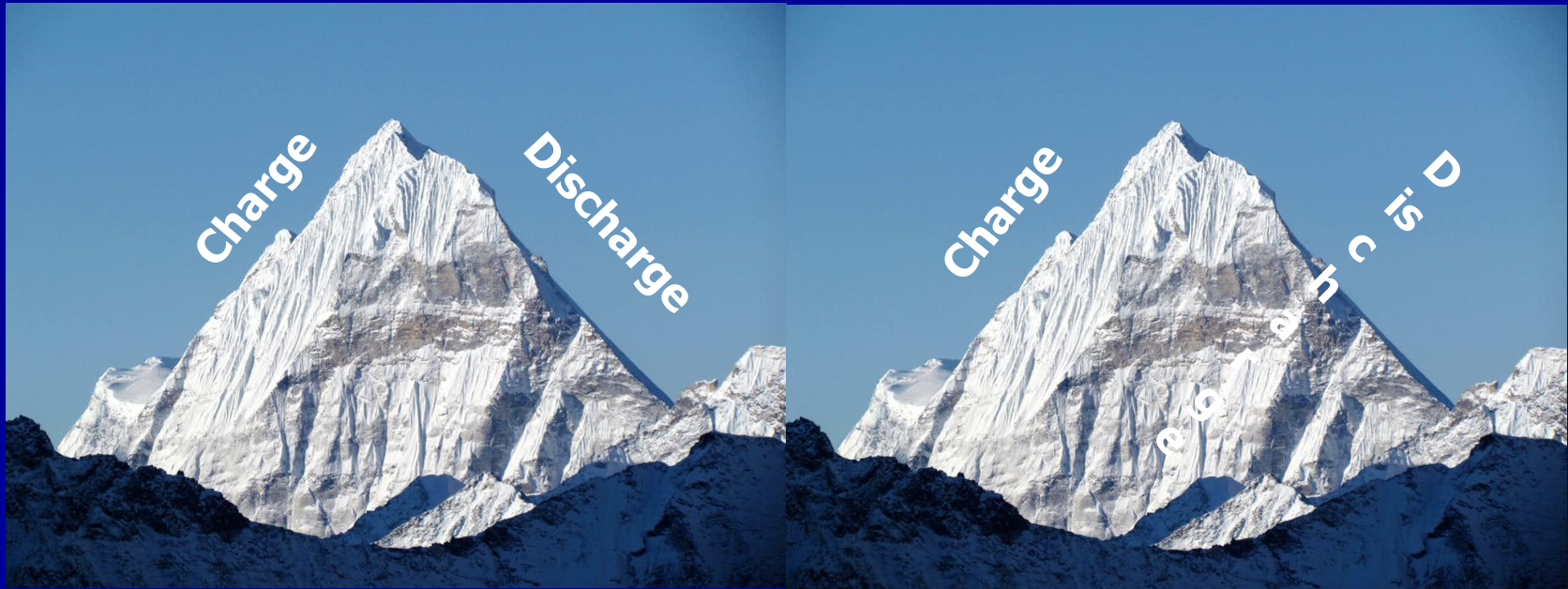
- Relaxation
- Decreased heart rate, BP, muscle tension
- Deeper, slower breathing
- Self regulated: self aware
- Effective digestion
- Invokes restorative functions of body
- Ideal: Rest & digest
- Freeze

# Fight, Flight, Freeze Brain & Body Bathed in Hormones & Chemicals



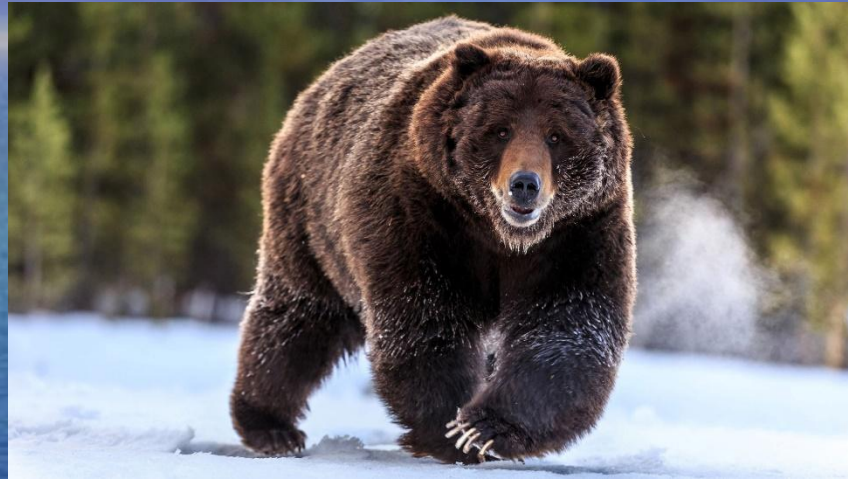
- 1,400 Chemicals and 30 different hormones released by brain
- Cortisol: blood sugar/insulin, weight gain, immune suppression, blood vessel constriction
  - Adrenaline: increased heart rate, BP

# Regulated Nervous System



Rest/Calm

# Real Or Perceived Threat



Today's Bears:  
Caseload, traffic, job & job security,  
money, family

# Dysregulated Nervous System



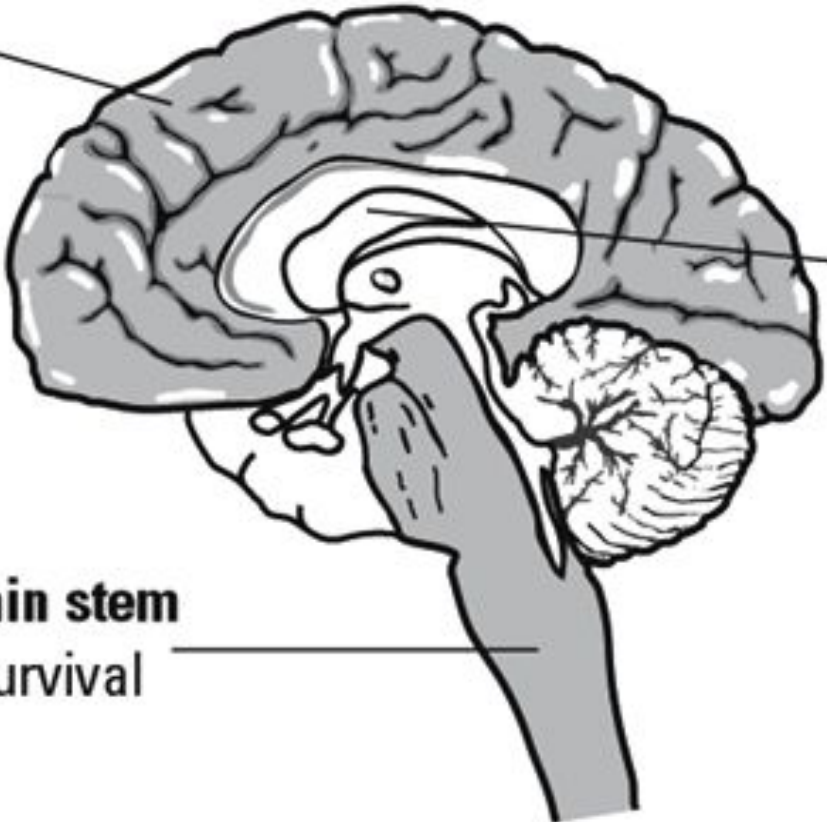






# Triune Brain

**Neocortex**  
Higher-order thinking



**Limbic brain**  
Emotions

**Brain stem**  
Survival

Brain Stem & Cerebellum (Impulsive)

- Fight/flight/freeze
- Automatic (breathing, digestion)
- Impulse
- Intuition

Limbic (Emotional)

- Memory
- Affect
- Relationship
- Self-reflection

Neocortex (Rational)

- Planning/organizing
- Language
- Abstract reasoning

# Regulating Nervous System

- As humans we have the ability to rise above and observe our emotions and body sensations
- Learn to recognize stress triggers & body's response to stress
- Recognition is first step in creating change
- Second is to implement strategies to regulate nervous system

# Top Causes of Stress

1. Job Pressure (co-workers, work overload)
2. Money
3. Health
4. Relationships (divorce, death of partner, conflicts with friends, loneliness)
5. Poor Nutrition (caffeine, processed food, refined sugars)
6. Media Overload (TV, internet, social media)
7. Sleep Deprivation

~ American Institute of Stress

# Posture Research

- Amy Cuddy –Harvard researcher
- Can your posture affect how you think and feel?
- “Your Body Language Shapes Who You Are”

[http://www.ted.com/talks/amy\\_cuddy\\_your\\_body\\_language\\_shapes\\_who\\_you\\_are](http://www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are)

# SHIFT YOUR POSTURE TO SHIFT YOUR MIND AND PHYSIOLOGY



# Review

- Autonomic Nervous System regulates body processes that are automatic
- Sympathetic – revved up; Parasympathetic – brakes
- With stress we get stuck in fight, flight or freeze response



# Review

- With stress we get stuck in fight, flight or freeze response
- Recognize your stress triggers and stress (automatic) responses
- Adopt practices to regulate the nervous system