

# **Understanding the Opioid Epidemic and Principles for a Solution**



# Introduction

- ▶ Purpose: Share a strategy to treat opioid addiction at the community and country level
- ▶ Key Principles:
  - ▶ Act quickly: 1-3 Days
  - ▶ Close networking between law enforcement, behavioral science, medical practitioners and community; all need to be at “the table”
  - ▶ Managing stress and alienation by connecting is critical !



# Understanding the Opioid Epidemic and Principles for a Solution

- Define the problem
- A Solution:
  - Society
  - 1:1 in clinic
  - Individual – locus of control
- Define Addiction
- Neurobiology
- Chronic pain
- Clinical application
- Conclusions
- Questions

# The Problem







# The Problem

- ▶ Vietnam War (1955-1975) – 58,000 killed over twenty years<sup>2</sup>
- ▶ 88,000 deaths each year are related to alcohol<sup>1</sup>
- ▶ 47,000 deaths each year are due to overdose<sup>1</sup>
- ▶ 1 death every 19 minutes
- ▶ 21 Million people in the U.S. have a substance abuse disorder<sup>1</sup>
  - ▶ This is comparable to the number of people with diabetes
  - ▶ 1.5 times the prevalence of all cancers combined<sup>1</sup>
  - ▶ Forecast: opioids could kill nearly 500,000 Americans in the next decade<sup>14</sup>
- ▶ Lack of resources:  
Only one in 10 people with addiction gets help<sup>3</sup>

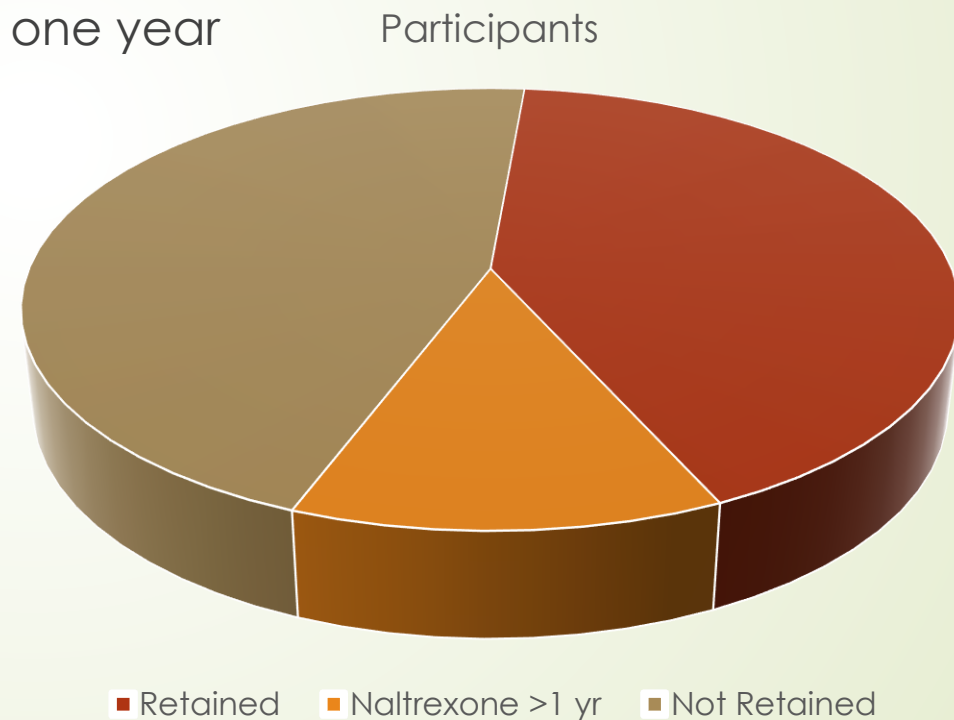


# The Solution

- ▶ Vietnam
  - ▶ Drug use was about 30% (self-reported)
  - ▶ Dropped to less than the society rate of 6.8%<sup>2</sup>
  - ▶ Conclusion: Environment dictates behavior
- ▶ Rat Studies – 1981
  - ▶ Challenged “root causes of addiction centered on the neurochemical pleasure response”
  - ▶ Rats isolated in cages preferred morphine water to regular water
  - ▶ Rats in community with space, food and other rats preferred water to morphine water
  - ▶ Conclusion: “Addiction is not about feeling good, it is about feeling less.”<sup>4</sup>
- ▶ Our Goal:
  - ▶ Design and study a community-based model of treatment

# Data

- ▶ Total number of participants = 420
- ▶ Current participants = 209 with a 62-70% retention
- ▶ 30 are on Naltrexone after one year





# A Mother and Son's Story



How did this happen?







## Definition of Addiction<sup>13</sup>:

- **Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.**



# Chronic Disease of the Brain<sup>11</sup>

Relationship is the most therapeutic tool we have

- Connection – Listen without judgement
- Focus on commonality
- Alzheimer's patients: deepest emotional need: to love and be loved

## First Impressions<sup>12</sup>

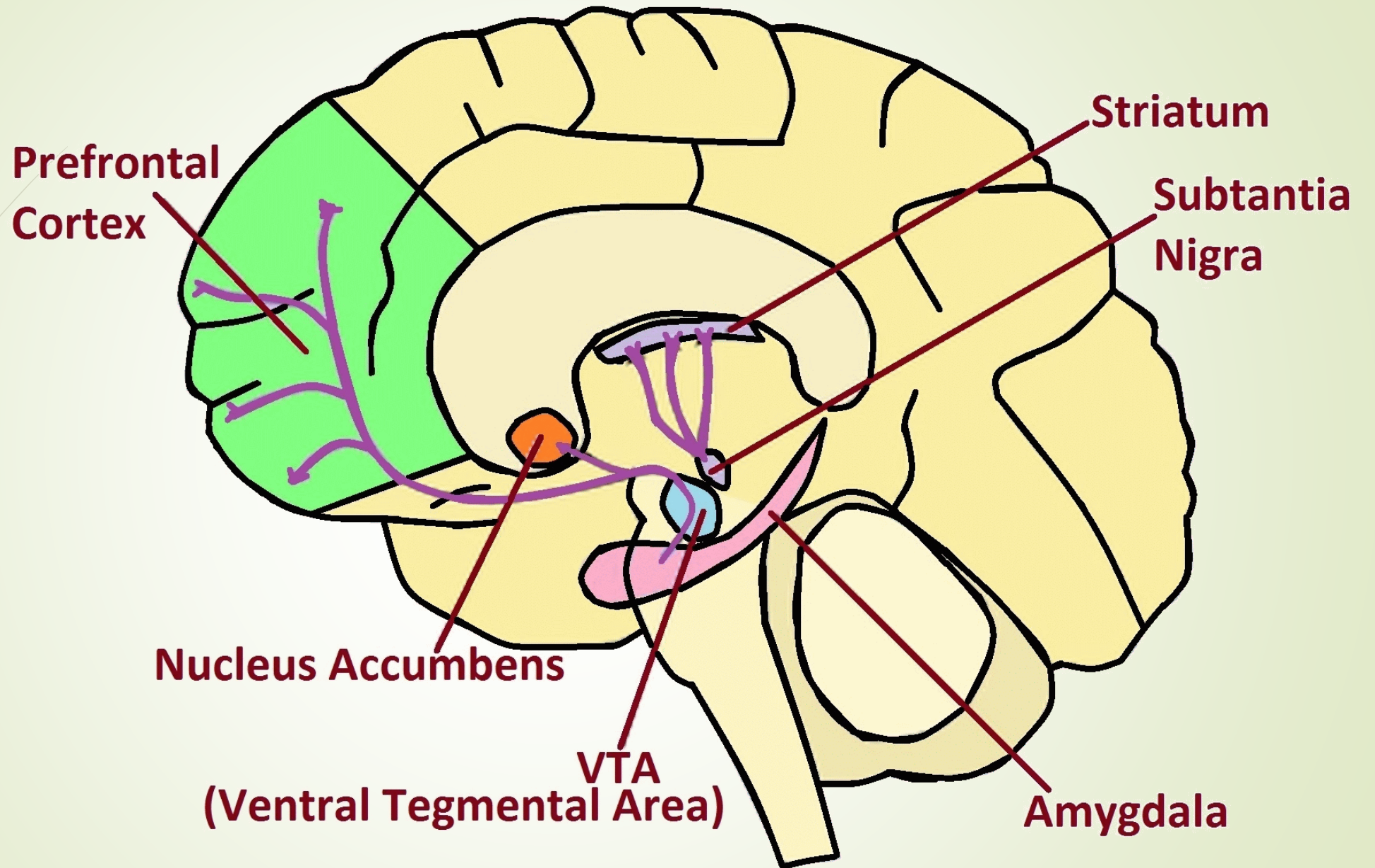
- Warmth = Trust
- Competence = Power

**LIFE DEPENDS ON**



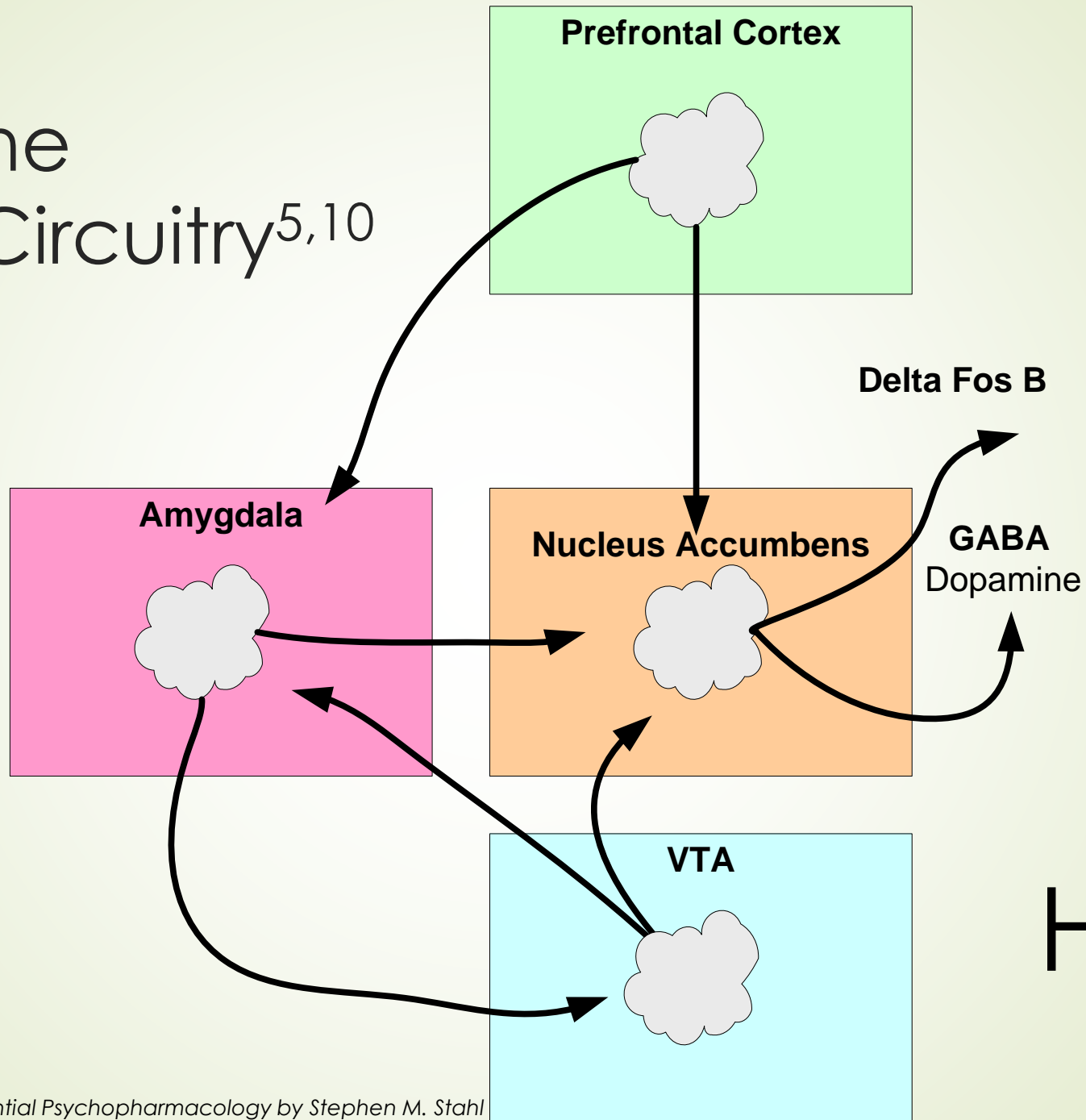
**FIRST IMPRESSIONS**

# The Brain





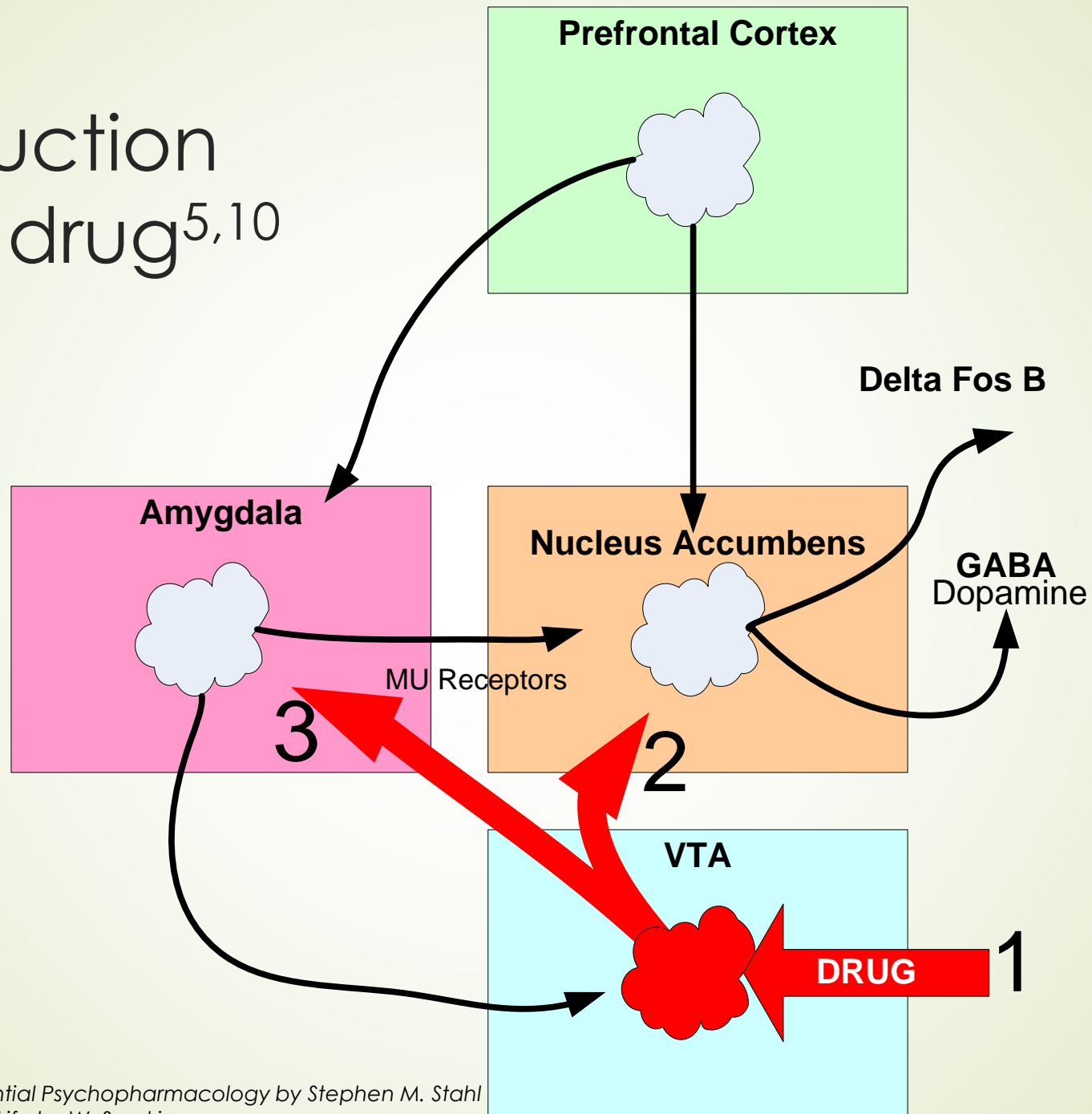
# Baseline Brain Circuitry<sup>5,10</sup>



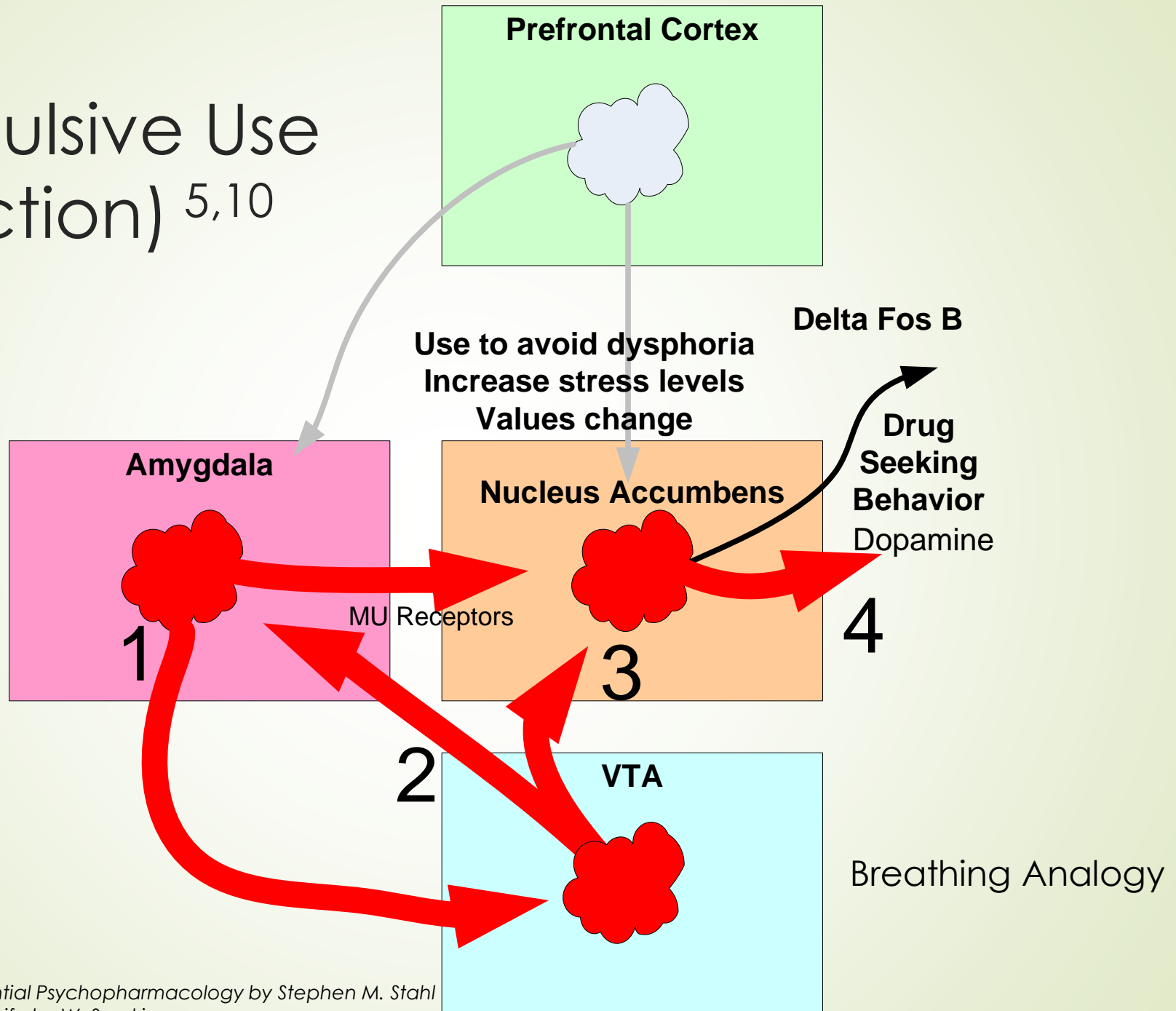
# Habits



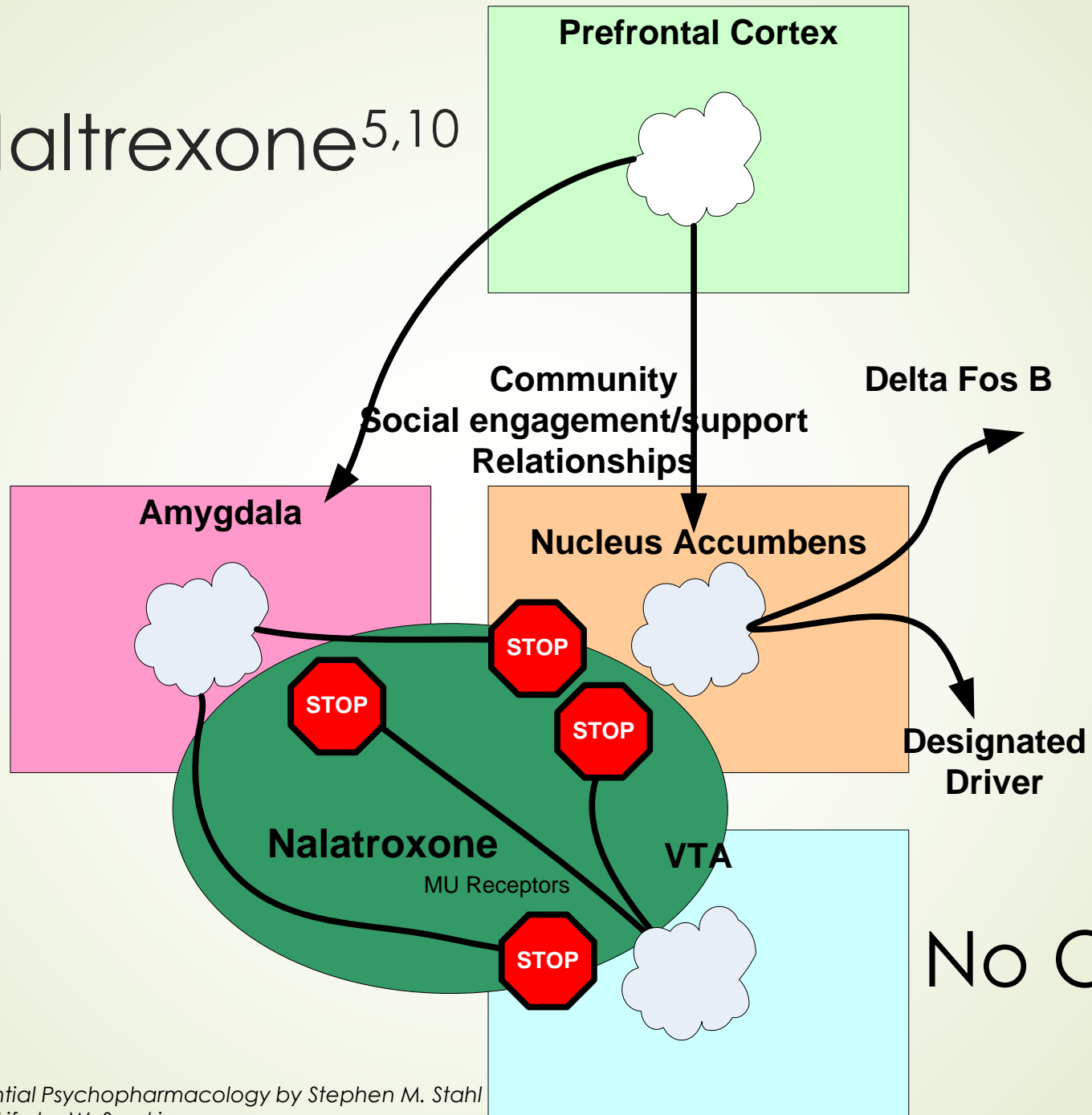
# Introduction of the drug<sup>5,10</sup>



# Compulsive Use (Addiction) <sup>5,10</sup>

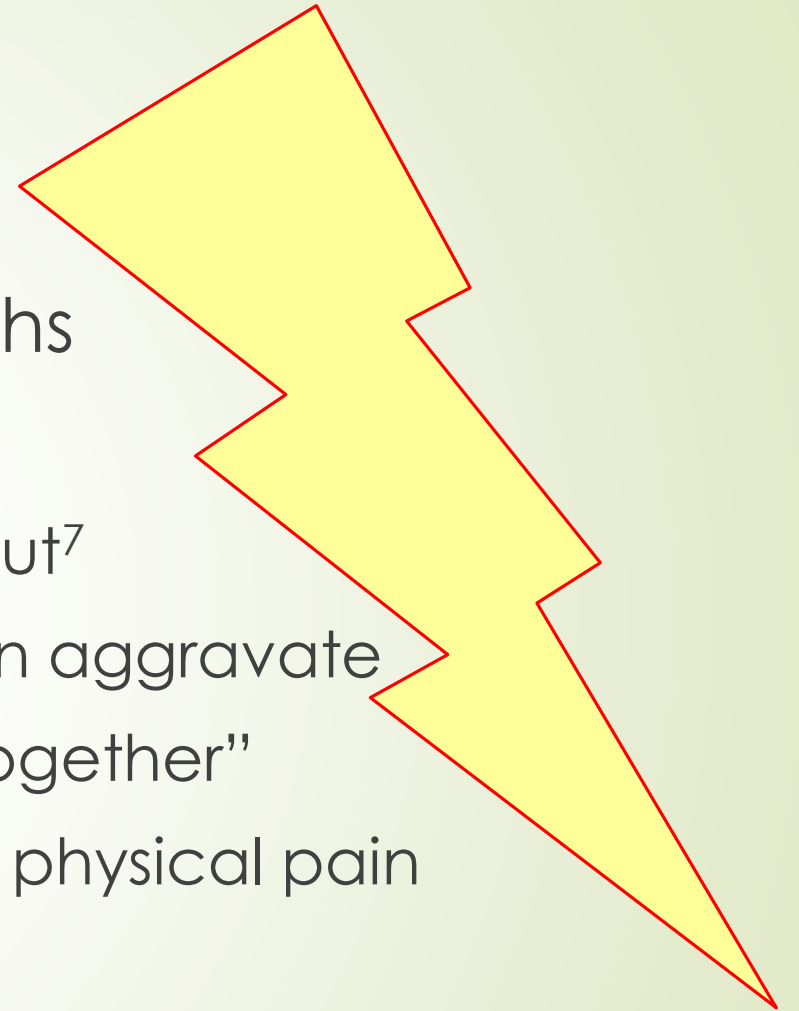


With Naltrexone<sup>5,10</sup>



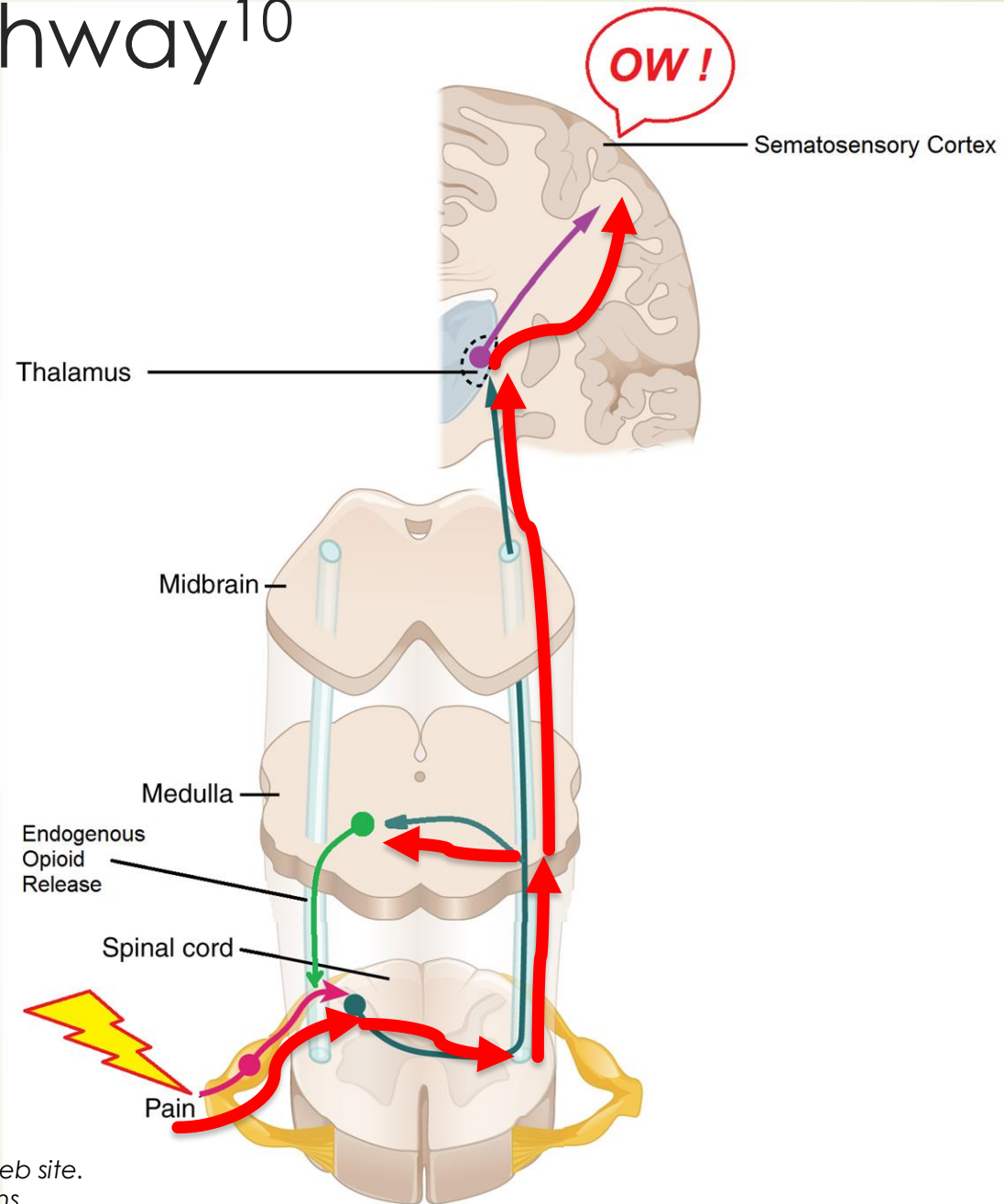
# Chronic Pain

- ▶ Pain lasting longer than 3 months
- ▶ Centralization of pain
  - ▶ Chemical response to sensory input<sup>7</sup>
  - ▶ Anxiety, fear, insomnia, depression aggravate
  - ▶ “Neurons that fire together wire together”
  - ▶ Overlap between emotional and physical pain



# Normal Pain Pathway<sup>10</sup>

- Nocioceptive Pain
- Neuropathic Pain

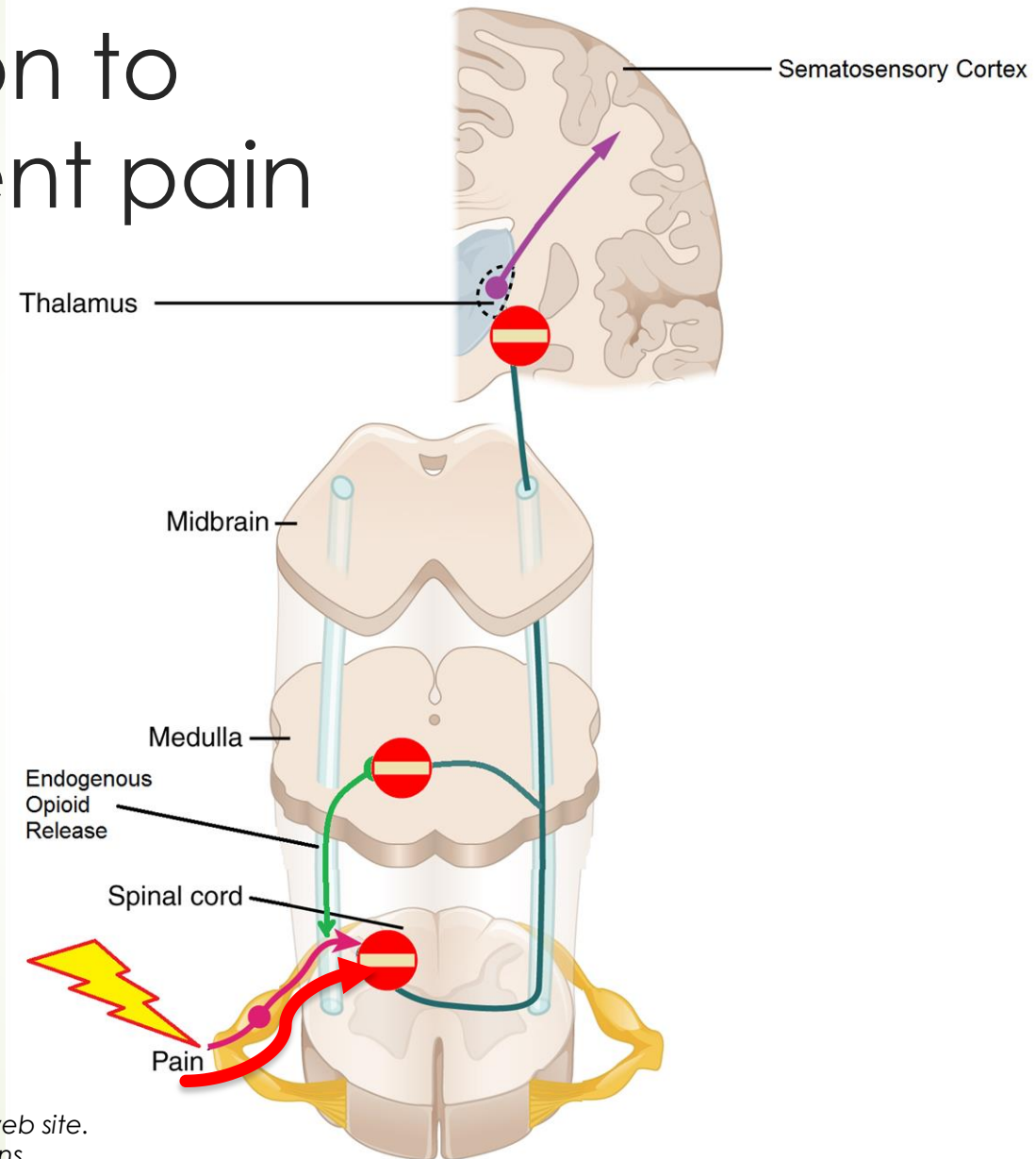


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# Opioids inhibit neurotransmission to reduce or prevent pain

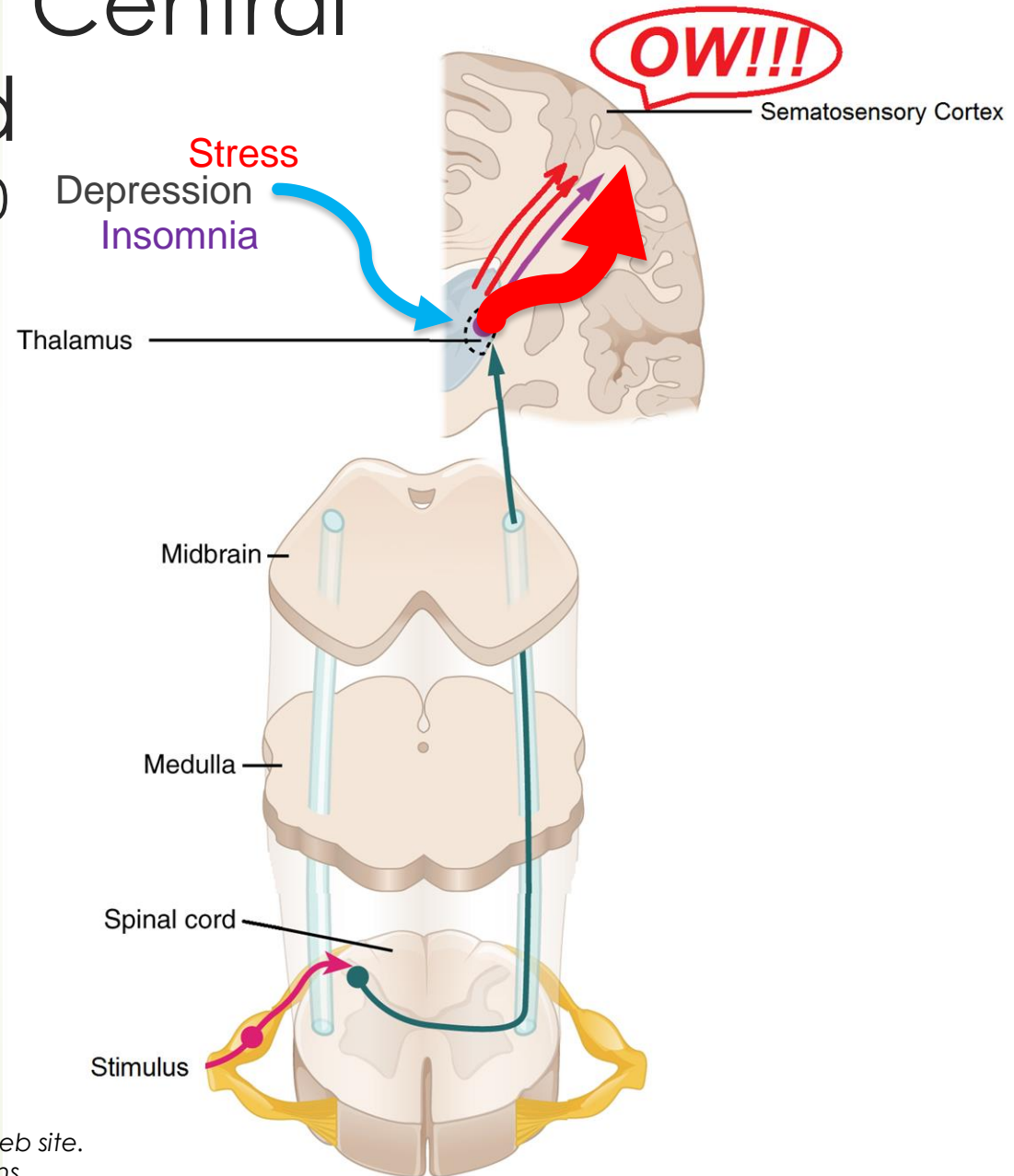
- Acute at End of Life
- Need exit policy



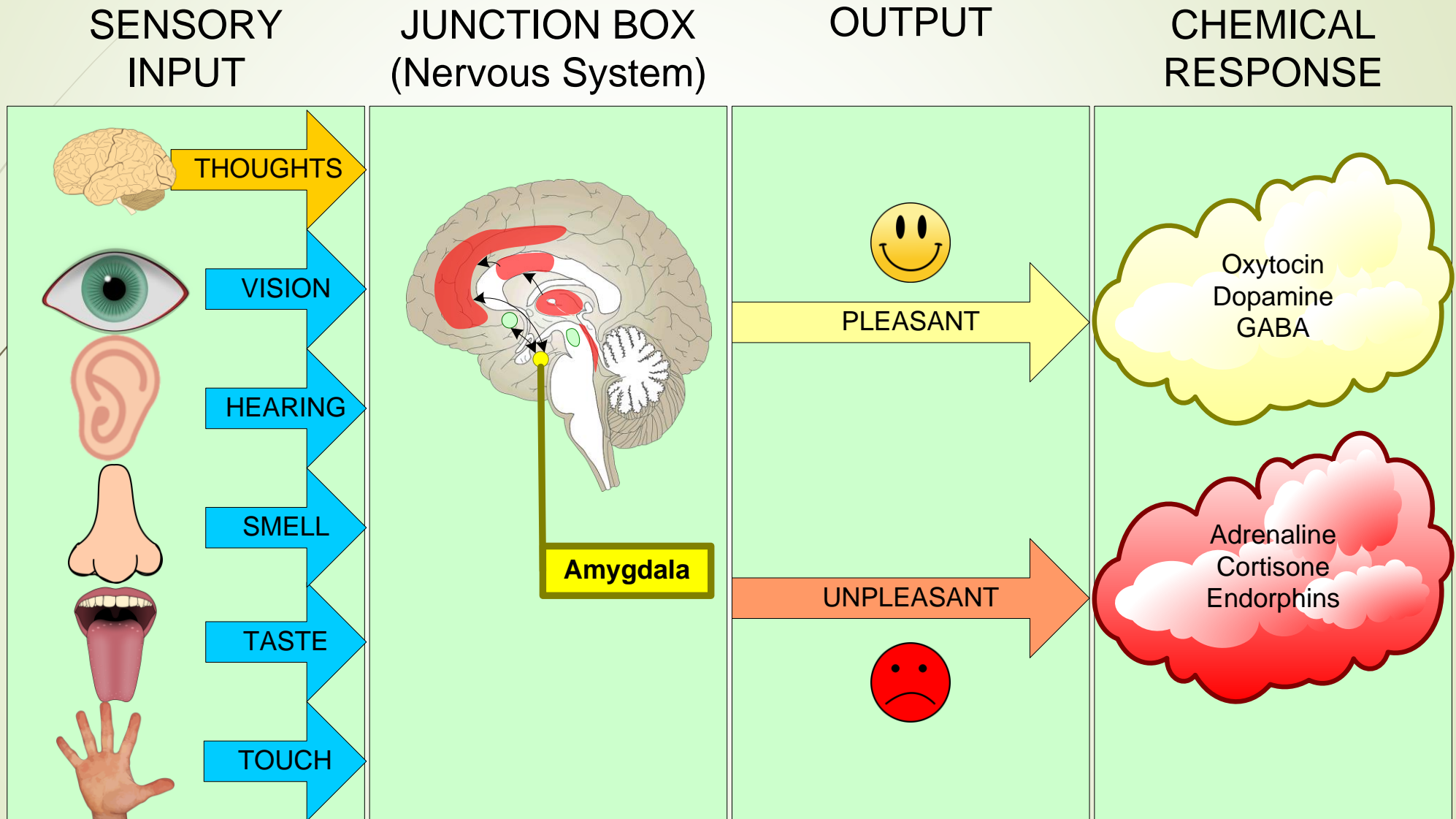
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# Suprasegmental Central Sensitization and Increased Pain<sup>10</sup>

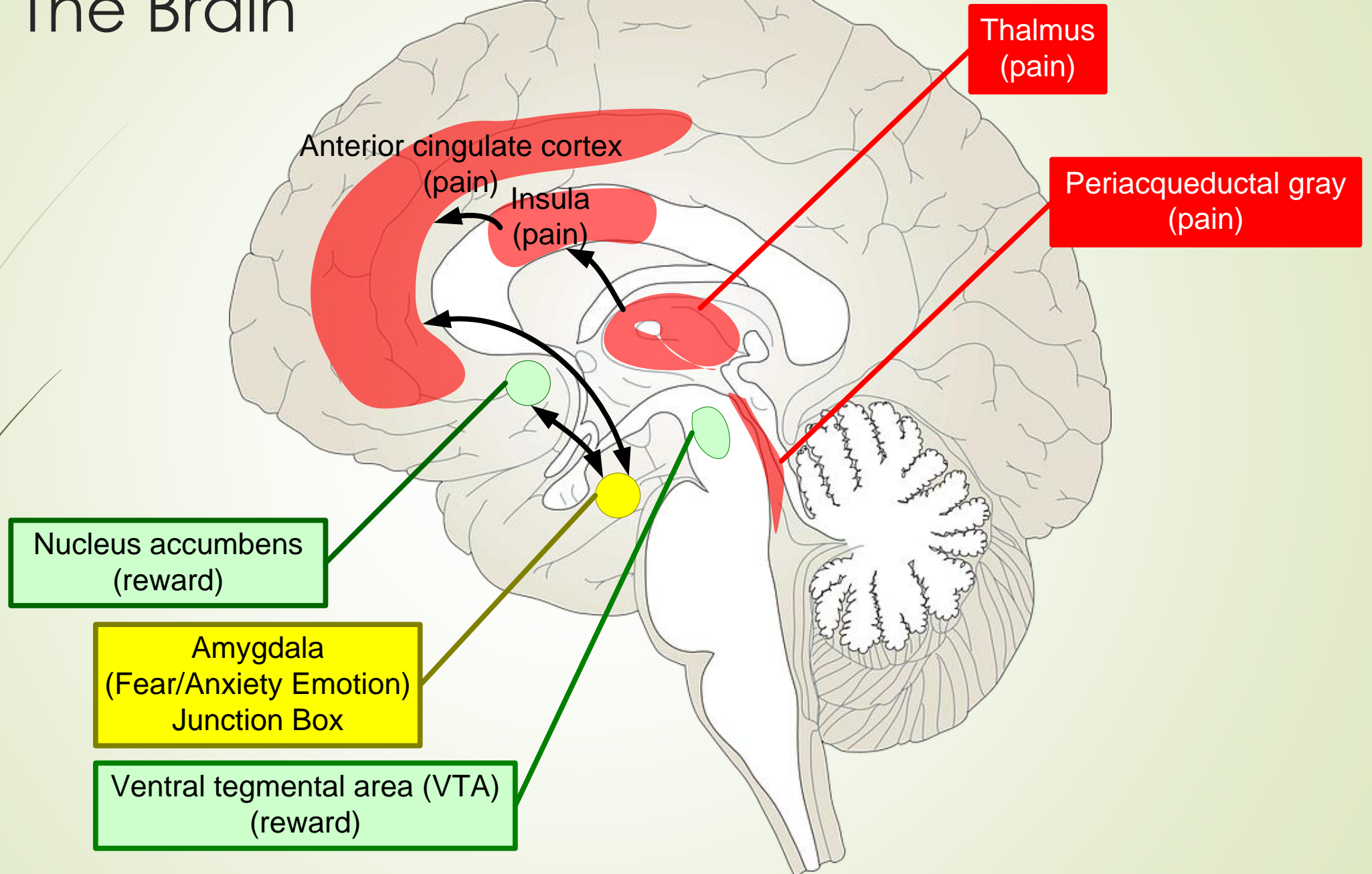
- Anxiety, fear, insomnia, depression, aggravation<sup>7</sup>
- Neurons that fire together wire together
- Overlap between emotional and physical pain



# Chemical Response to Sensory Input<sup>7</sup>



# The Brain





# “Back in Control”

- Clinical Study<sup>7</sup>
- Treatment:
  - Active Medication
  - Expressive Writing
  - Cognitive Behavioral Therapy (CBT)
  - Massage
  - Stimulus Response





# Monthly Visits

- Anxiety – GAD7
- Insomnia
- Depression – PHQ9
- Trauma



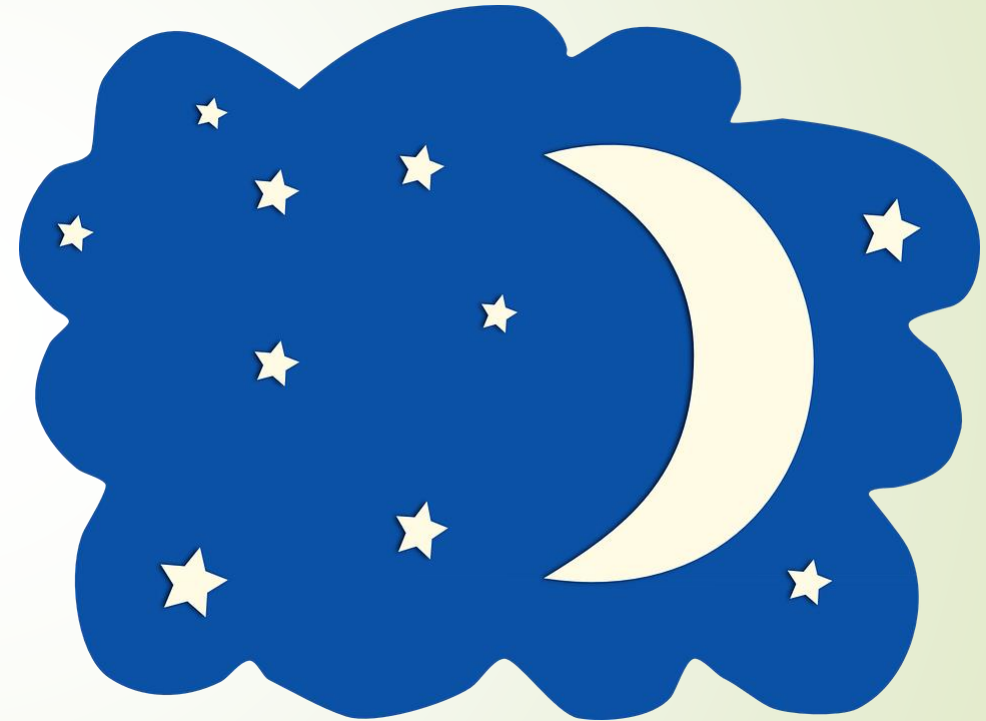
# Anxiety

- ▶ GAD7
- ▶ Exercise
- ▶ Expressive Writing
- ▶ Active Meditation
- ▶ Medications:
  - ▶ Hydroxyzine
  - ▶ Buspirone
  - ▶ Trazodone
  - ▶ Clonidine
  - ▶ Gabapentine
  - ▶ Propranolol



# Insomnia

- Sleep hygiene
- Expressive Writing
- Medications: Non-addicting:
  - Trazodone
  - Clonidine
  - Quetiapine
  - Hydroxyzine
  - Gabapentine



# Depression

- ▶ PHQ9
- ▶ Other Causes:
  - ▶ Grief over loss
  - ▶ Nutrition deficiencies
  - ▶ Sleep Apnea
- ▶ Treatment<sup>8</sup>:
  - ▶ Sleep
  - ▶ Exercise
  - ▶ Diet
  - ▶ Tricyclic and SSRI: Citaloprom, Sertraline



# Trauma

- ▶ Being able to feel safe with other people defines mental health
- ▶ Foster safety, predictability and being known and seen
- ▶ First step is acknowledging that a child is upset: then calm him, then explore the cause and possible solutions
- ▶ Prime reason for habitual drug use in teens is they cannot stand the physical sensations that signal fear, rage and helplessness?
- ▶ Treatments<sup>15</sup>:
  - ▶ Prazosin
  - ▶ Sertraline
  - ▶ Venlafaxine
  - ▶ CBT
  - ▶ Transcranial magnetic stimulator








# Conclusion

- Brain Model
- Be:
  - Good animal - move
  - Child - play
  - Saint - commitment



We are what we repeatedly do.  
Excellence, then, is not an act,  
but a habit.

Will Durant



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