



ASAM American Society *of*
Addiction Medicine



Welcome Message from the District of Columbia Hospital Association



About ASAM

ASAM, founded in 1954, is a professional medical society representing over 6,000 physicians, clinicians and associated professionals in the field of addiction medicine. ASAM is dedicated to increasing access and improving the quality of addiction treatment, educating physicians and the public, supporting research and prevention, and promoting the appropriate role of physicians in the care of patients with addiction.

More information available at:

<https://www.asam.org/about-us/about-asam>





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Faculty

Dr. Daniel A. Nauts

Dr. Nauts completed his undergraduate and medical education at the University of Michigan and joined an internal medicine group practice in Bellingham, Washington. He left general internal medicine to develop his Addiction Medicine practice; since that time, he has been instrumental in the creation of inpatient programs for those suffering with substance use and co-occurring disorders, outpatient SUD programs, and medication assisted treatment services. Dr. Nauts is an independent contractor for the Montana Primary Care Association. He is a member of the Drug Utilization Board of Mountain Pacific Quality Health providing oversight to the Medicaid formulary, is recognized as a Fellow of the American Society of Addiction Medicine (FASAM) and is certified in the subspecialty of Addiction Medicine by the American Board of Preventive Medicine. He is the treasurer for the Northwest Society of Addiction Medicine, a Chapter of American Society of Addiction Medicine (ASAM) representing Montana, North Dakota, and Wyoming and is a faculty member of ASAM to provide Data 2000 MAT waiver trainings and The Fundamentals of Addiction Medicine.

Disclosure Information

Daniel A. Nauts, MD

Nature of Relevant Relationship: None





Faculty

Dr. Robert C. Sherrick

Dr. Robert Sherrick is Chief Medical Officer for Community Medical Services, a company that serves patients through over 40 Opioid Treatment Programs in 9 states. He also works at an inpatient addiction treatment facility in Kalispell, Pathways Treatment Center, treating all forms of Substance Use Disorders and dual diagnosis patients. Dr. Sherrick has been providing Medication Assisted Treatment for Opioid Use Disorder since 2003, initially in an office setting using buprenorphine and subsequently with methadone in Opioid Treatment Programs. He established a state-wide buprenorphine treatment program for VA Montana with extensive use of telemedicine. He is board certified in Addiction Medicine through the American Board of Preventative Medicine. He is currently the President of the Northwest Chapter of the American Society of Addiction Medicine.

Disclosure Information

Robert C. Sherrick, MD

Nature of Relevant Relationship: None



Polling Questions



Poll

Which of these categories best describes you?

- ☐ Physician (MD or DO) – Addiction Medicine
- ☐ Mid-level Provider (Nurse Practitioner or Physician Assistant)
- ☐ **Psychologist**
- ☐ Counselor – Substance Use Disorders (LCPC, LCSW, LAC, etc.)
- ☐ Counselor - Other
- ☐ **Criminal Justice Worker**
- ☐ **Peer Support Professional**
- ☐ **Other**

Poll

For those who are medical providers (MD, DO, NP, PA), what is your area of practice?

- ☐ Addiction Medicine
- ☐ Addiction Psychiatry
- ☐ Emergency Medicine
- ☐ Family Medicine
- ☐ Internal Medicine
- ☐ OB/GYN
- ☐ Pediatrics and Adolescent Medicine
- ☐ Palliative Medicine
- ☐ Pain Management and Pain Medicine
- ☐ Psychiatry – General
- ☐ Other

Poll

How many years have you been treating Substance Use Disorders?

- ☐ I am not working in the area of Substance Use Disorder treatment.
- ☐ Less than five years
- ☐ 5 - 15 years
- ☐ 16 - 25 years
- ☐ 26 - 35 years
- ☐ More than 35 years

The ASAM Fundamentals of Addiction Medicine is a practical, case-based workshop designed for providers new to the field of addiction medicine and those interested in learning more about addiction medicine. Addiction as a disease continues to cost the global community a staggering amount both financially and in lives lost, but there are treatments available to help patients. The workshop addresses how to recognize, treat and/or refer patients with substance use disorders.



Course Learning Objectives

1. Identify our own feelings and attitudes that promote or prevent therapeutic responses to patients with substance use disorders. (Session 1, day 1)
2. Demonstrate a knowledge of the diseased brain processes when treating patients with substance use disorders. (Session 2, day 1)
3. Understand pharmacotherapy options for alcohol, tobacco, and opioid use disorders and their role in treating SUDs. (Session 3, day 2)
4. Know how to identify Substance Use Disorders and use standardized instruments for diagnosing SUDs and placing patients at the appropriate level of care. (Session 4, day 2)



Course Learning Objectives

5. Understand how to approach patients with SUDs in medical and behavioral health settings. (Session 4, day 2)
6. Offer the interventions that are appropriate to specific substances and severity of usage pattern – Screening, Brief Intervention, and Referral to Treatment (SBIRT). (Session 5, day 3)
7. Understand how SUDs are treated using evidence-based interventions that do not involve medications and the role of harm reduction paradigms in decreasing adverse outcomes from SUDs. (Session 5, day 3)
8. Use Motivational Interviewing to enhance patient's readiness to change risky behaviors. (Session 6, day 4)



Case-Based Learning

What is it?

We will follow a case-based learning approach where we will explore scenarios that resemble or typically are real-world examples. This approach is learner-centered and links theoretical knowledge to practice by giving opportunities for the application of knowledge.



“Meet & Greet” [Break out sessions]

1. Introduce yourself.
2. Share what addiction means to you.



Session 1

An Introduction to Addictive Disorders



Session Learning Objective

At the end of the session, you will be able to:

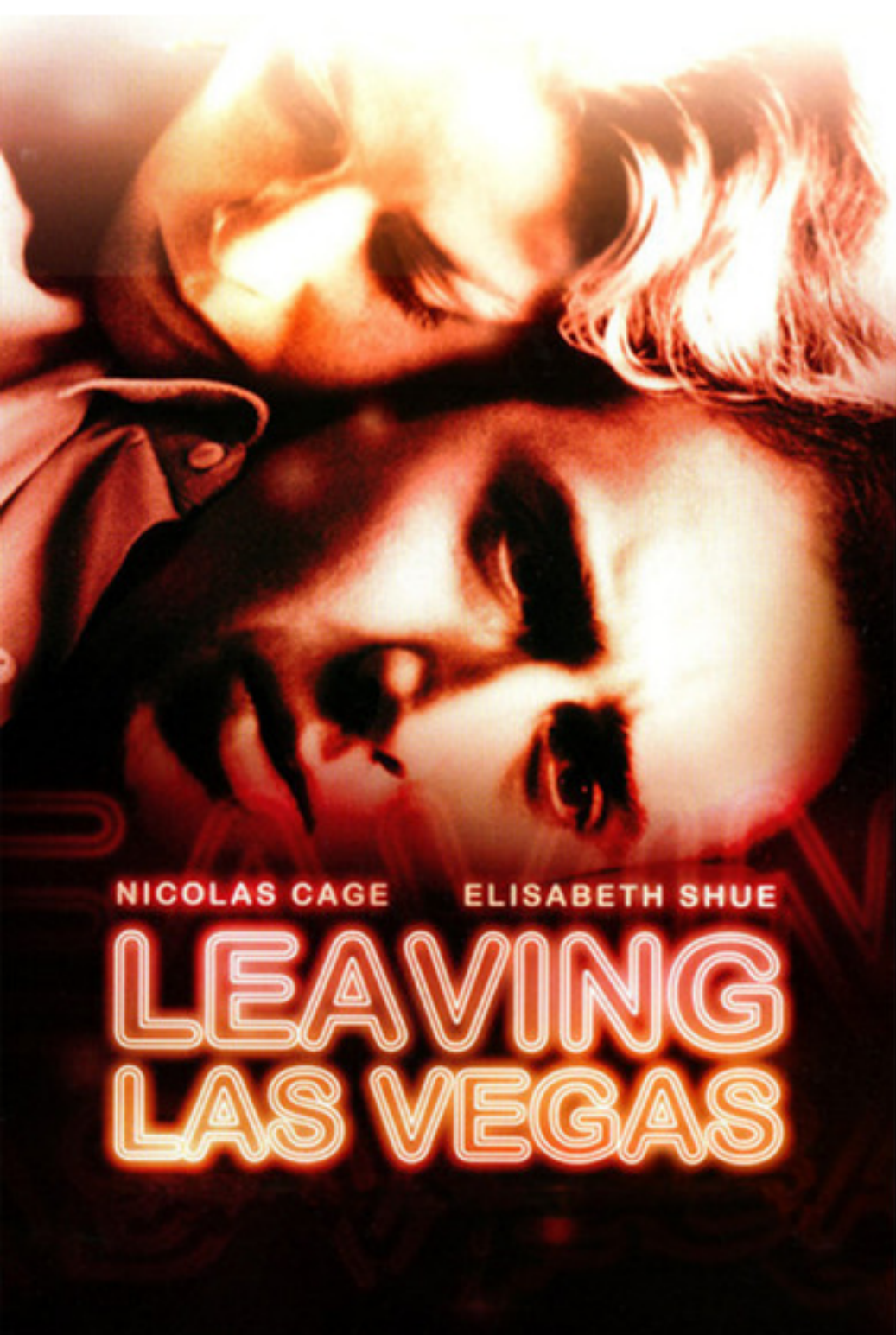
- Identify one's own feelings and attitudes that promote or prevent therapeutic responses to clients with substance use disorders.





Focus Areas

- Being aware of our own biases and preconceptions
- Being able to connect to patients with SUDS with understanding, empathy, and compassion
- Understanding how SUDs can affect the delivery of medical or behavioral health care



Leaving Las Vegas (1995)

PDF Instructions

Download the PDF on the next page:

1. Right-click on the gray space around the document or move your mouse to the top of the gray space and right-click on the dark gray drop-down bar.
2. Select the “Save as” option.
3. Rename the PDF using the title in the document.
4. Save the PDF in the FOAM folder you have created on your device.



“Leaving Las Vegas” Reflections Worksheet

Directions: Note below what you observe in the clip of “Leaving Las Vegas.” Then discuss these observations with your group.

Diagnostic features of alcohol use disorders- DSM-5 in Nicolas Cage (Ben)

| Item | Comments |
|--|----------|
| 1. Taking the substance in larger amounts or for longer than meant to | |
| 2. Wanting to cut down on substance but not being able to | |
| 3. Spending a lot of time and effort obtaining, using, or recovering from the effects of the substance | |
| 4. Cravings and urges to use the substance | |
| 5. Not managing to do what he should at work, home or school, because of substance use | |

<https://cf.nearpod.com/neareducation/new/Webpage/517404240/iconoriginal.pdf?AWSAccessKeyId=AKIA5LQSO4AXIHKV2NEC&Expires=2147483647&Signature=LF9bQ%2FRH93MFlwfa6YRLOB%2FpRaM%3D>

Video Reflection

As you watch the Leaving Las Vegas video and reflect on the following questions:

- How did you feel when watching Ben and his actions?
- How did you feel when watching others react to Ben?
- How might these feelings affect your interactions and treatment of patients like Ben?





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Collaboration Board





In one word, describe your reaction to "Ben"?

Collaborate Board

In one word, describe your reaction to "Ben"?

How did you feel when watching others react to



Collaborate Board

How did you feel when watching others react to Ben?

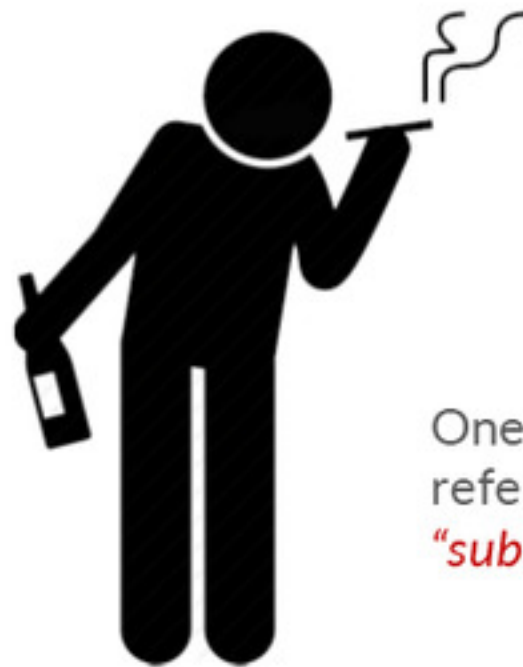


How might these feelings affect your interactions and treatment of patients like Ben?

Collaborate Board

How Does Stigma Impact Care for Clients?

In a study by The Recovery Research Institute, 314 participants were asked 35 questions about how they felt about two people “actively using drugs and alcohol.”



One person was referred to as a
“substance abuser.”

The other person was referred to as
“having a substance use disorder.”



Kelly JF, Westerhoff CM. Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms. *Int J Drug Policy*. 2010 May;21(3):202-7. doi: 10.1016/j.drugpo.2009.10.010. Epub 2009 Dec 14. PMID: 20005692.

No further information was given about these hypothetical individuals.

How Does Stigma Impact Care for Clients?

The study found that:

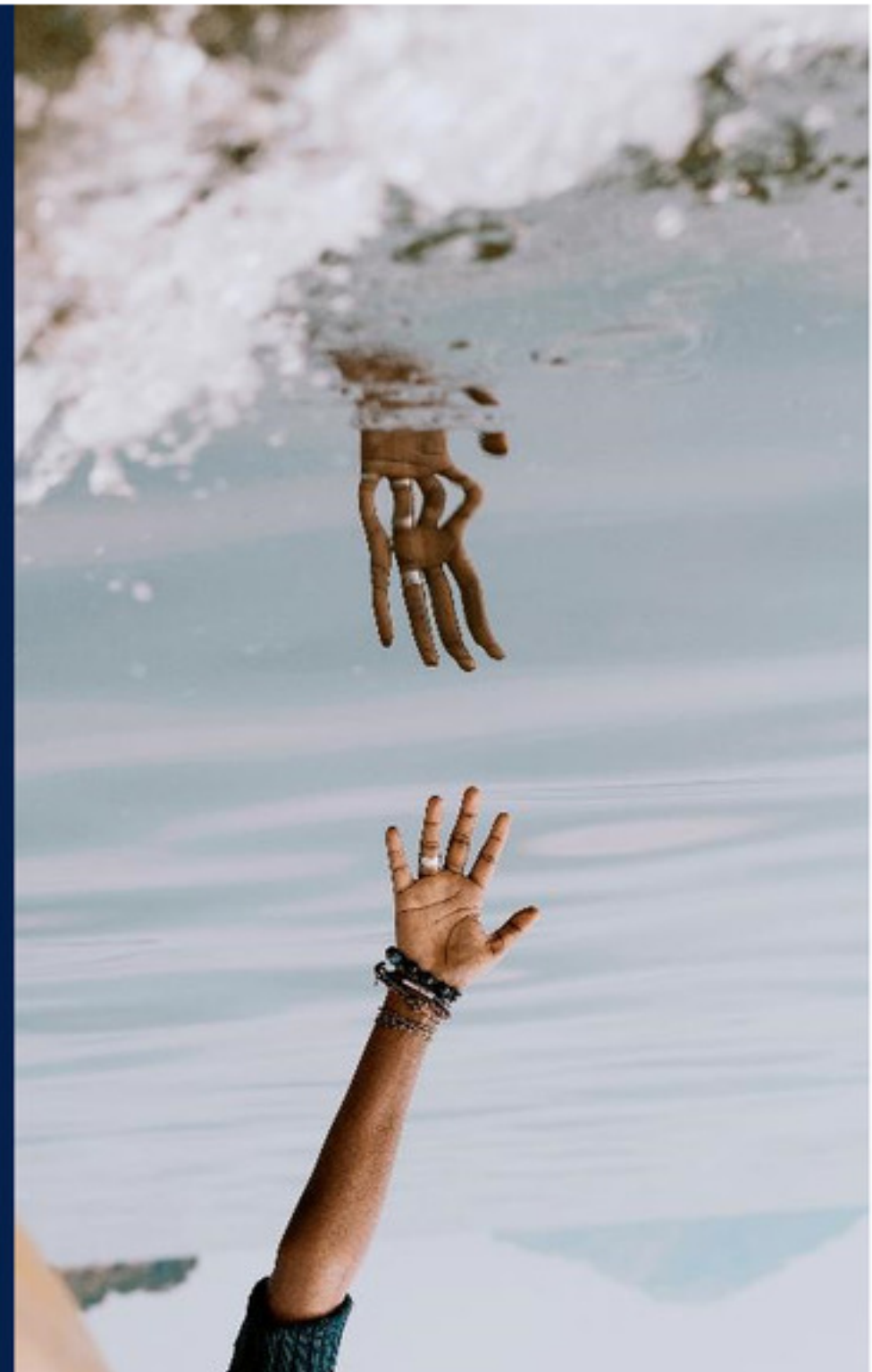
*Study participants felt that the term “**substance abuser**” was someone who would be:*

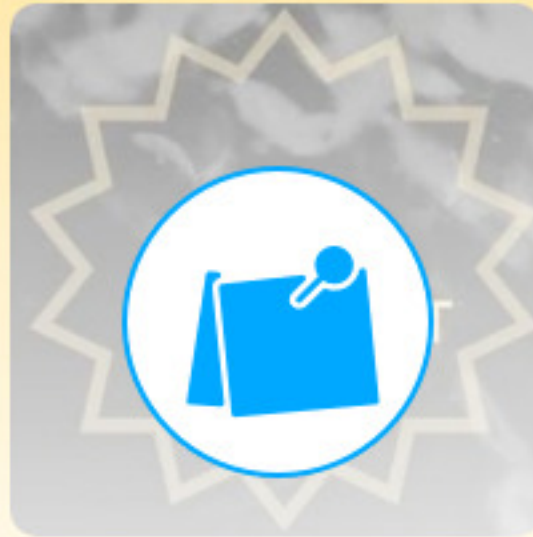
- Less likely to benefit from treatment.
- More likely to benefit from punishment.
- More likely to be socially threatening.
- More likely to be blamed for their substance-related difficulties.
- Less likely that their problem was the result of an innate dysfunction over which they had no control.
- More able to control their substance use without help.

<https://www.recoveryanswers.org/research-post/the-real-stigma-of-substance-use-disorders/>

A Minute Of Self-Reflection

Based on the feelings “Ben” generated in you, how do you propose to monitor and use the knowledge gained in this workshop to provide effective person-centered care to patients with SUDs in your practice?





Self-Reflection **Collaborate Board**

Based on the feelings "Ben" generated in you, how do you propose to monitor and use the knowledge gained in this workshop to provide effective person-centered care to patients with SUDs in your practice?

Self-Reflection

Session Feedback



Poll

Presenters were knowledgeable, unbiased, engaging.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neither Agree nor Disagree
- ☐ Agree
- ☐ Strongly Agree

Poll

This session enhanced my current knowledge and/or skill base.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neither Agree nor Disagree
- ☐ Agree
- ☐ Strongly Agree

AN INTRODUCTION TO ADDICTIVE DISORDERS

End of Session 1



Session 2

Clinical Manifestations of the Neurobiology of Addiction



Session Learning Objective

At the end of the session, you will be able to:

- Demonstrate a knowledge of the diseased brain processes when treating patients with substance use disorders.

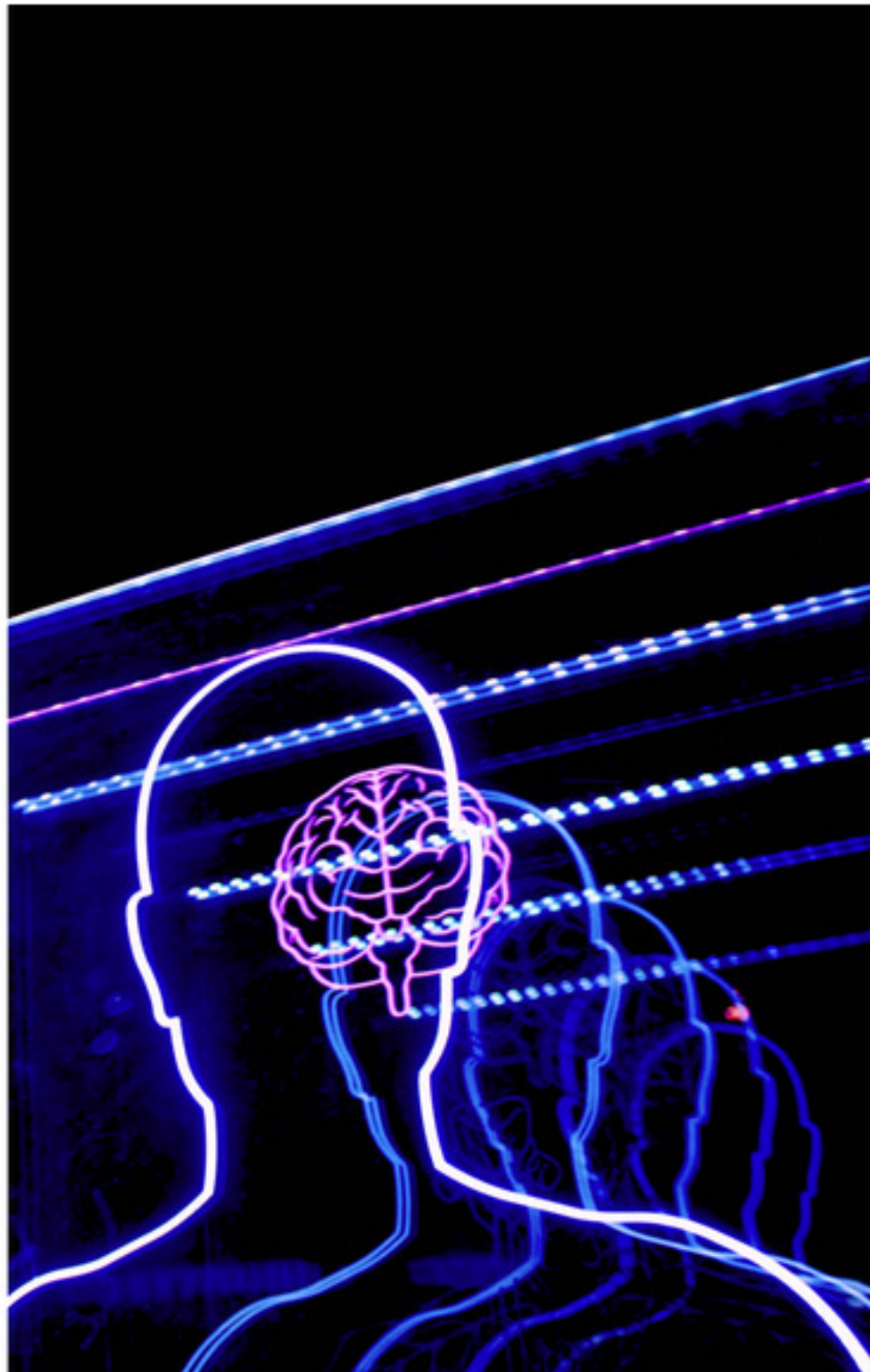




What will we cover?

Why are only some substances addictive?

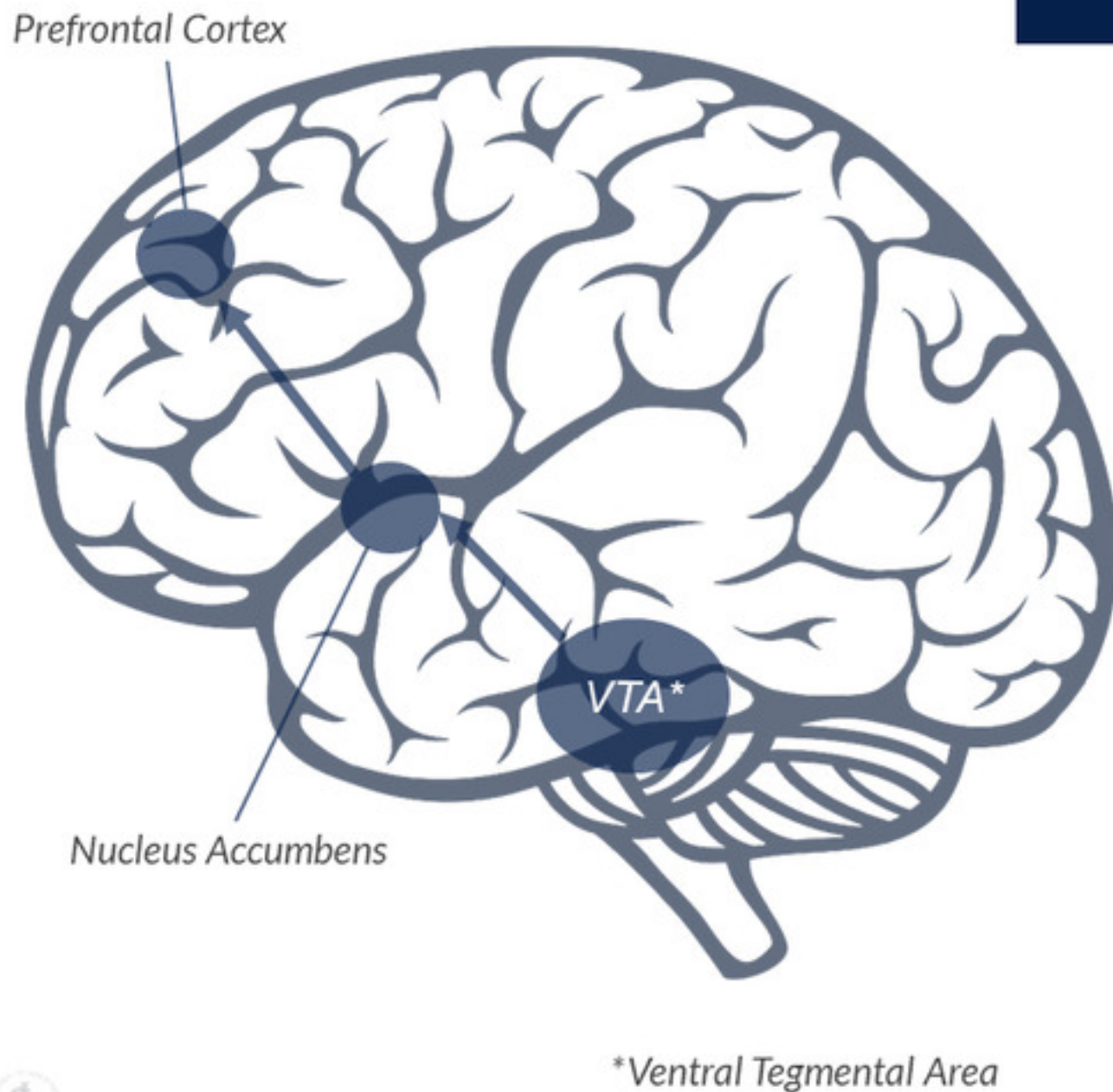
- Pleasure/reward pathway.
- Impact of traumatic events in childhood.
- Positive and negative reinforcement.
- Impaired cognition in addiction.
- Tolerance and withdrawal.
- Triggering and craving.
- Relapse and recovery.



Why does the human brain become addicted?

Why can we only become addicted to some substances?

The Reward Pathway

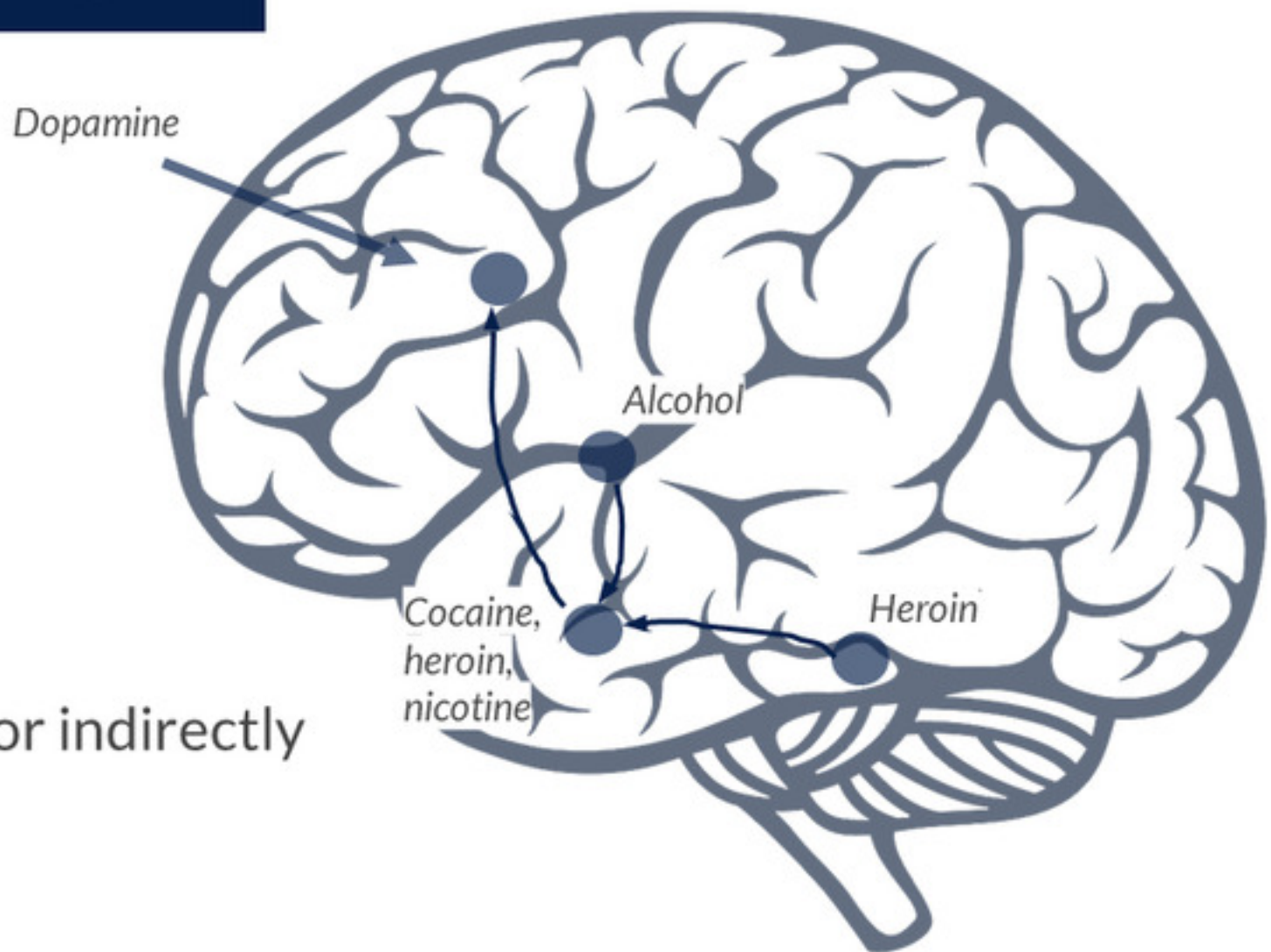


- What is known as the “reward” pathway in the brain is activated by the activities that we find pleasurable:
 - Food, water and sex; “appetites.”
 - Interpersonal relationships, spirituality, exercise, art, music, beauty.
- The common reward pathway in the brain for all pleasurable activities involves the neurotransmitter **dopamine**.
- “**The Lizard Brain**”: conserved during evolution.

The drugs that we can become addicted to are those that hijack the natural pleasure circuitry of the brain.



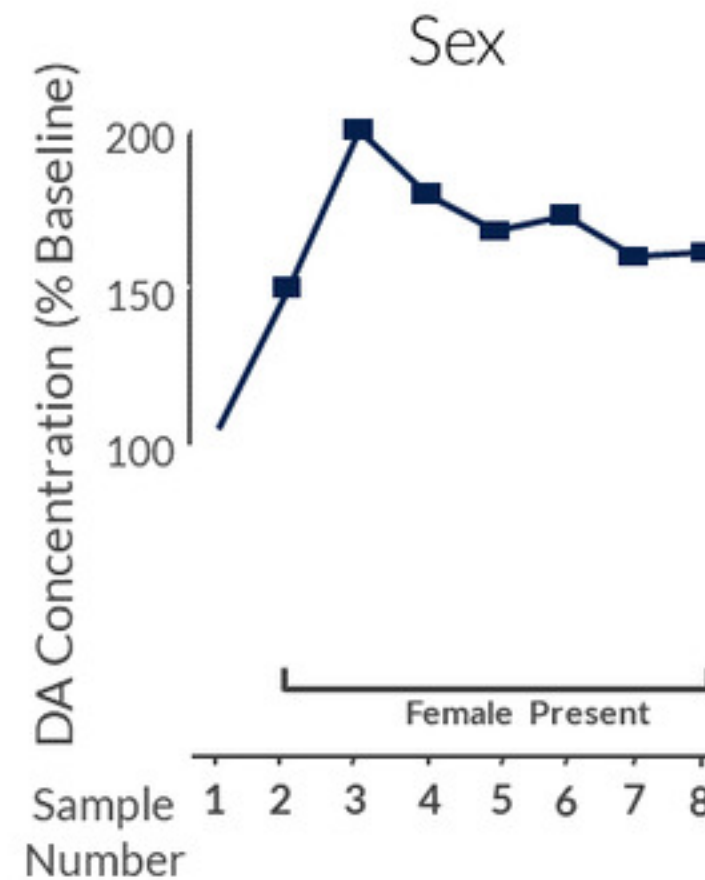
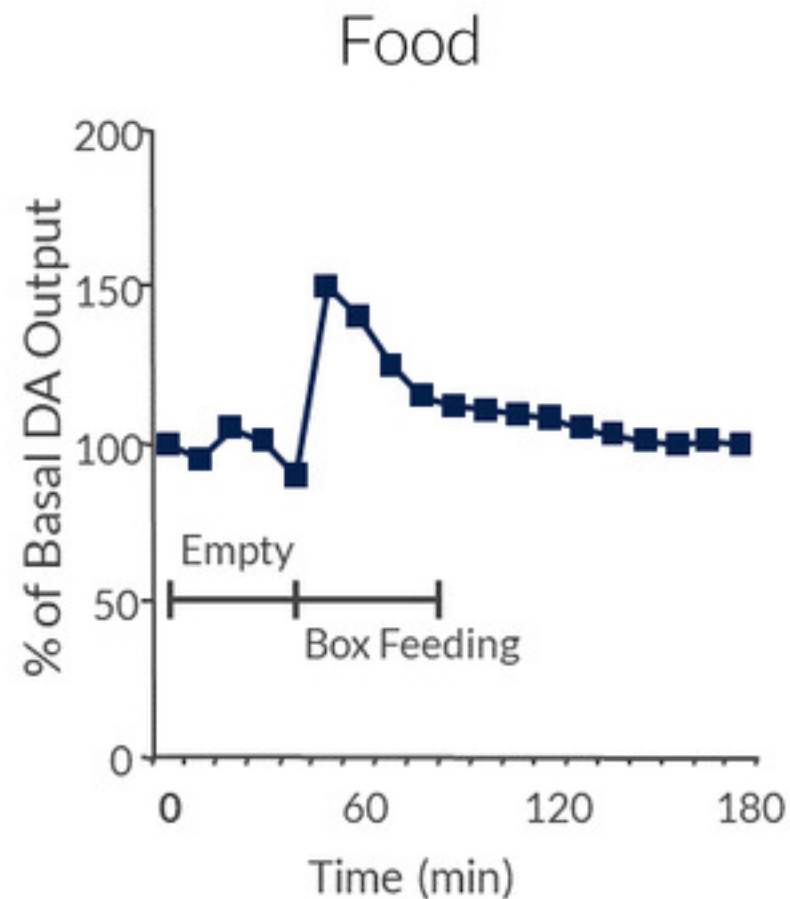
Activation of the reward pathway by addictive drugs.



All addictive drugs act directly or indirectly via dopaminergic pathways.

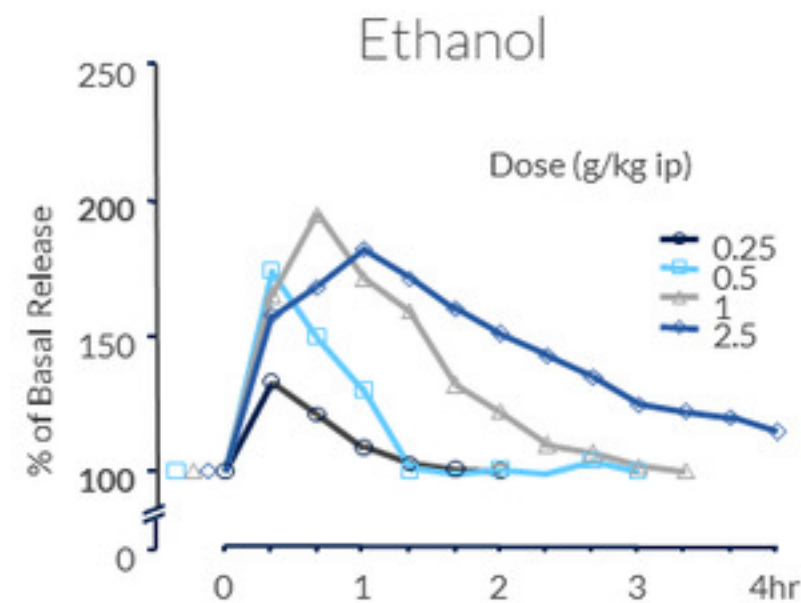
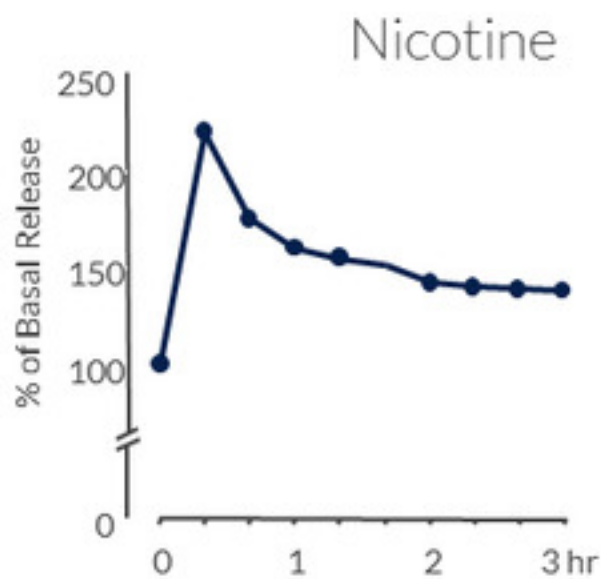
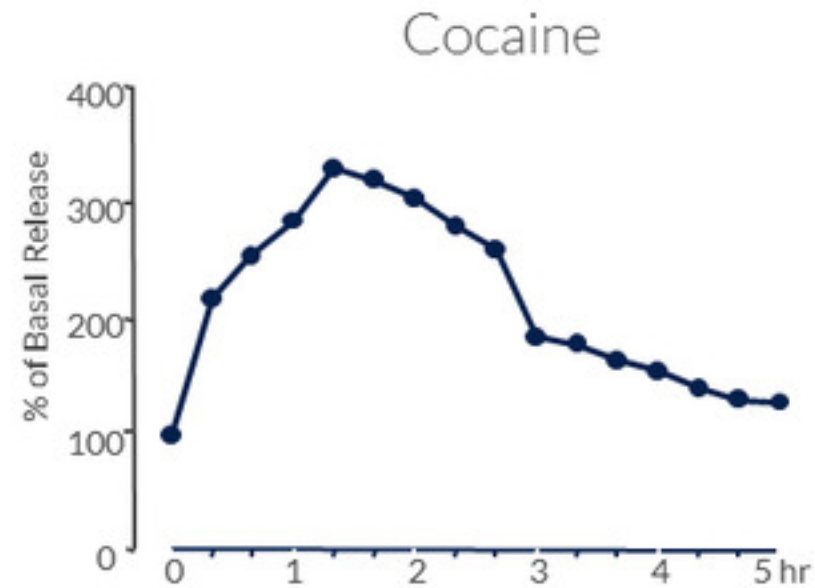
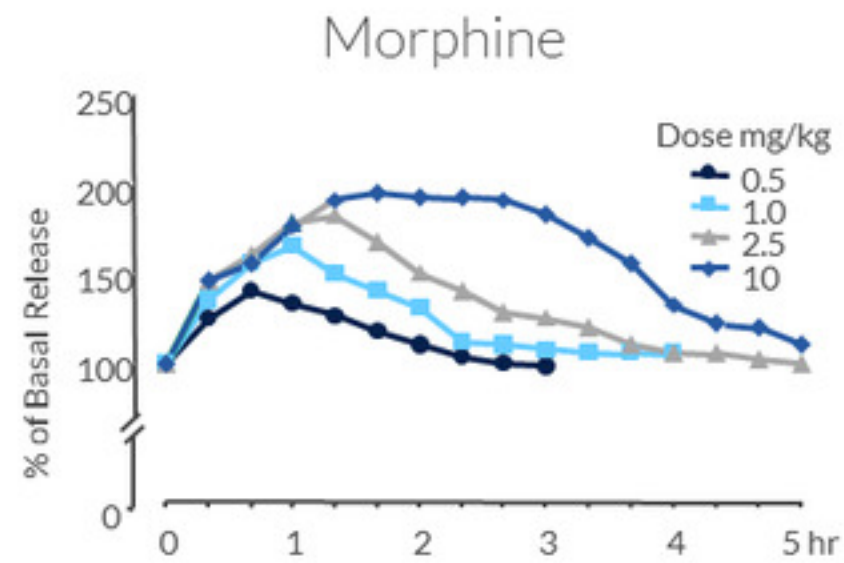


Natural Rewards and Dopamine Levels



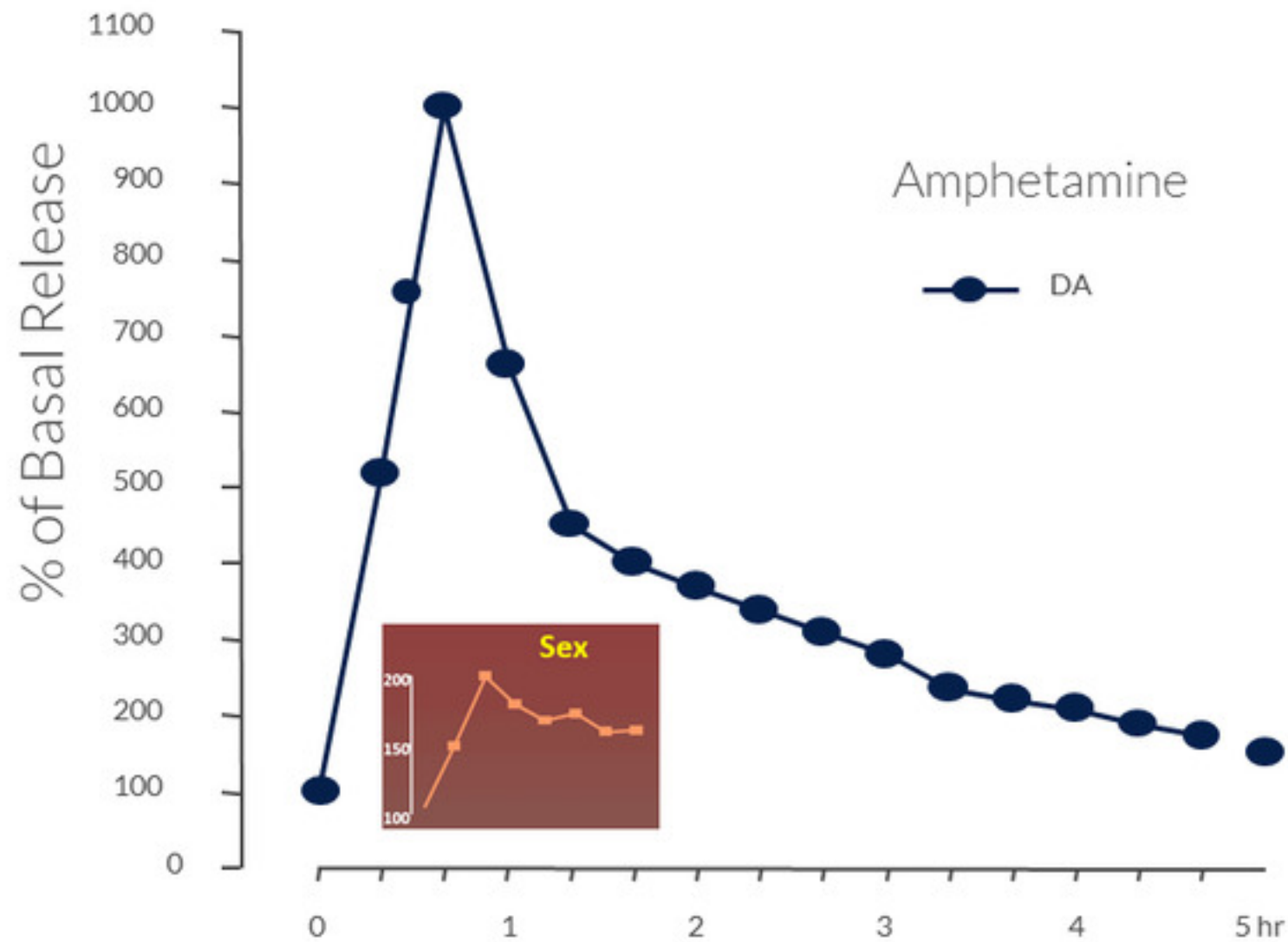
Slide courtesy of Petros Levounis, MD
Adapted from: Di Chiara et al, *Neuroscience*, 1999
Adapted from: Fiorino and Phillips, *J Neuroscience*, 1997

Effects of Drugs on Dopamine Levels



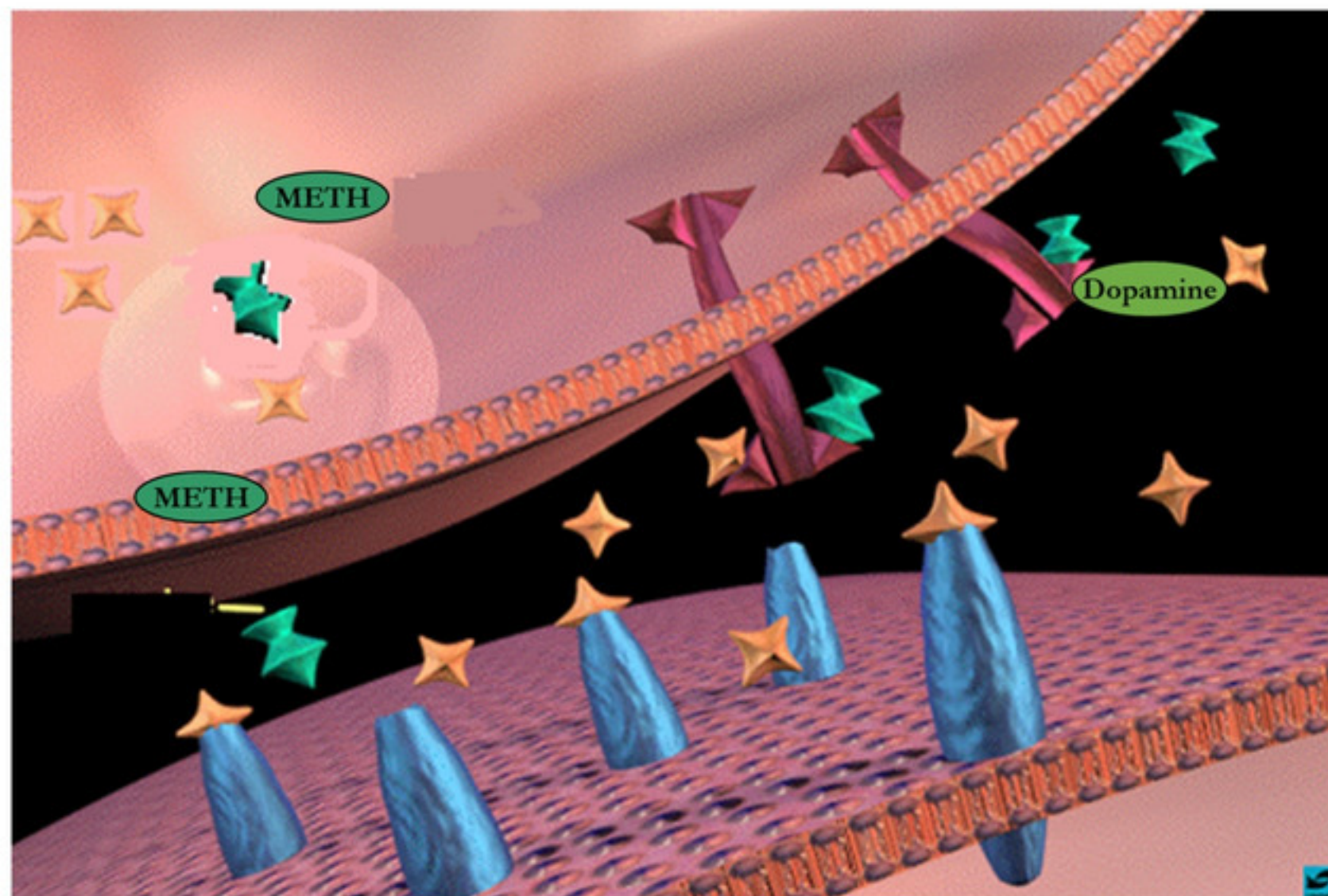
Slide courtesy of Petros Levounis, MD
Adapted from: Di Chiara and Imperato,
Proceedings of the National Academy of Sciences USA, 1988; courtesy of Nora D Volkow, MD

Effects of Amphetamines on Dopamine Levels



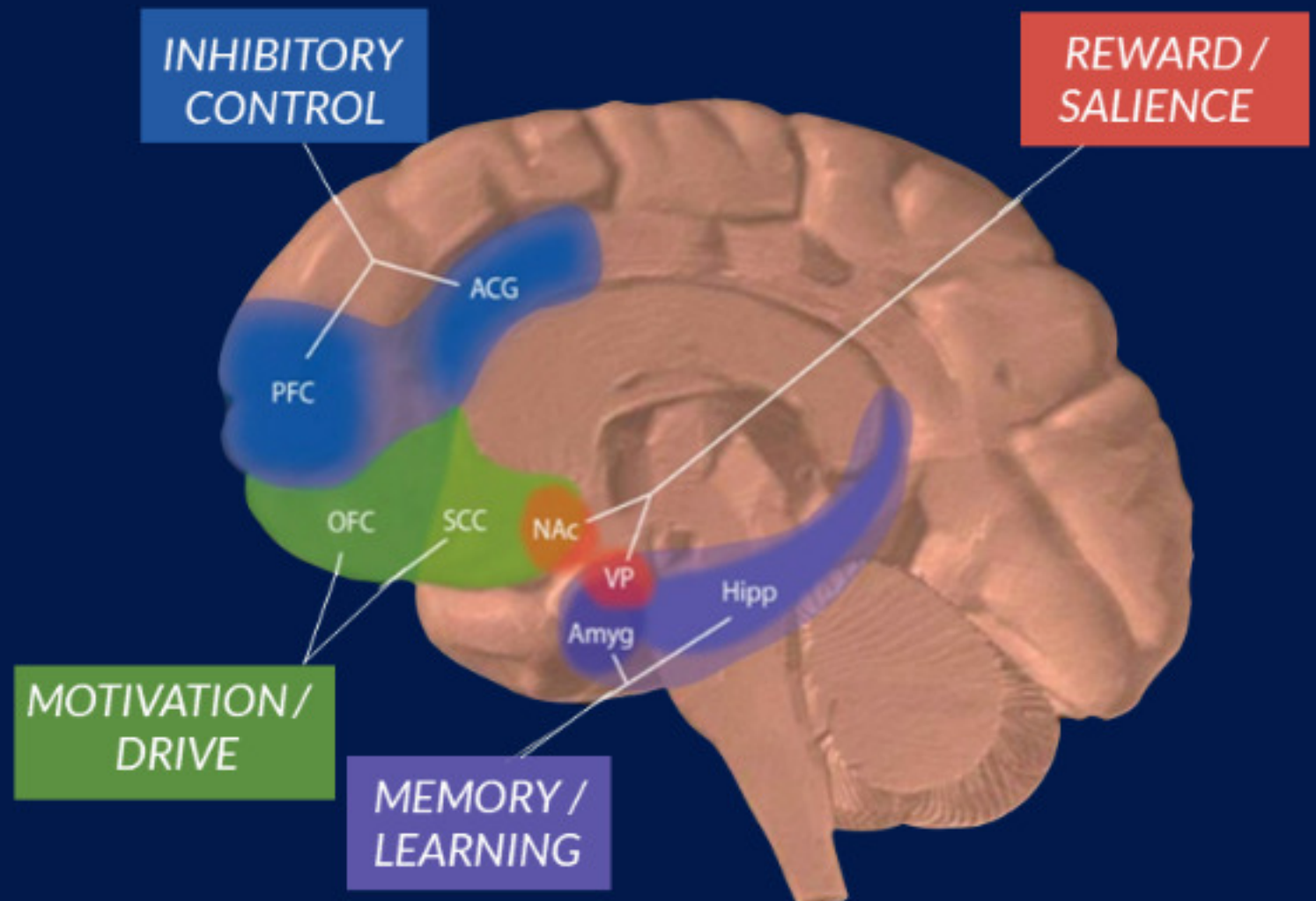
Slide courtesy of Petros Levounis, MD
Adapted from: Di Chiara and Imperato,
Proceedings of the National Academy of Sciences USA, 1988; courtesy of Nora D Volkow, MD.

Methamphetamine releases dopamine into the synapse and enters the presynaptic terminal



Circuits Involved in Drug Abuse and Addiction

Glutamate, GABA, NMDA, Opioid, NACH, ECS are also important.



How have scientists sorted out how the addicted brain works?



It turns out that rats are remarkably similar to humans.



Experimental system for studying addiction in rats.

The (few) drugs that are self-administered by a rat are the same as those that humans will self-administer.

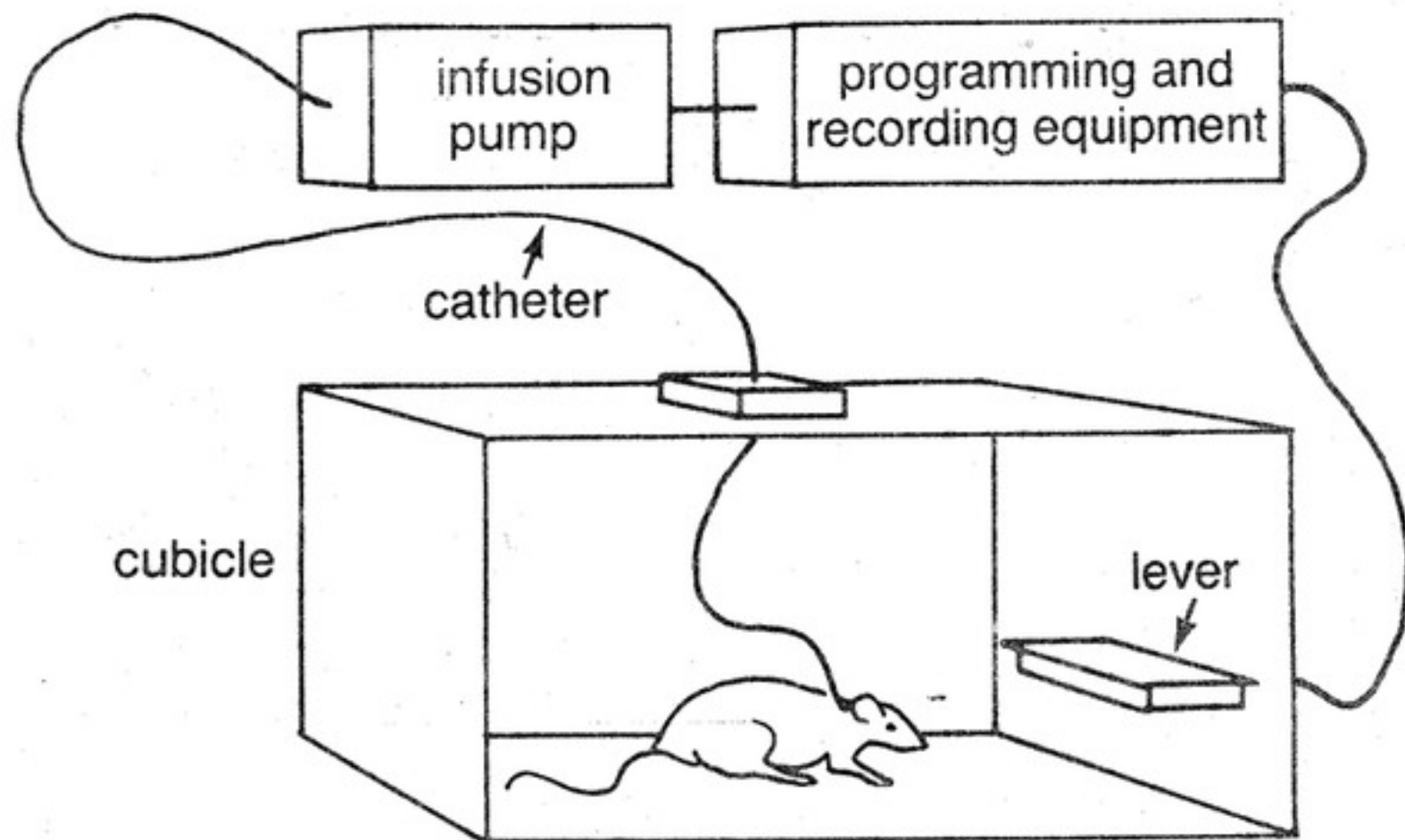


Fig. 2. System for i.v. drug self-administration in rats fitted with a catheter dwelling chronically in a jugular vein. The catheter is connected to an infusion pump containing a drug solution, and lever-presses operate a switch connected to the programming and recording apparatus. The rat can learn to self-administer a positively reinforcing drug by pressing the lever.

Wise RA, Biological Psychiatry 2002

Rat Model of Addiction

- The rat is given injection of an addictive drug via the reward pathway; it can repeat the experience by pushing a lever.
- Initial random lever-pushing quickly becomes compulsive.
- When the rat receives the drug (cocaine) every time it pushes the lever, it will starve to death or die of thirst rather than leave the lever to go into another part of the cage to eat or drink.
- Does this remind you of anyone?

Routtenberg, 1965

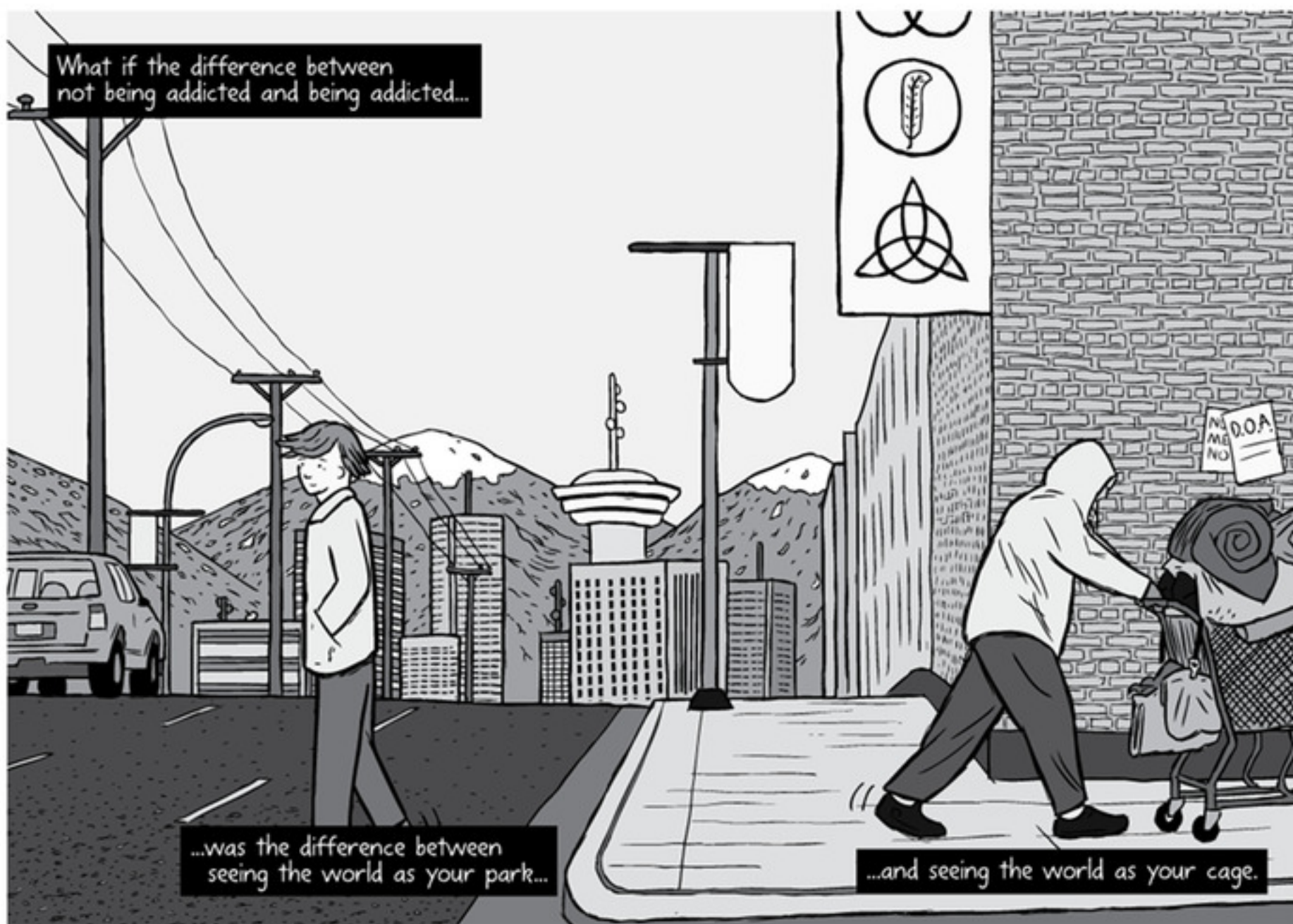
However, Rat Park

- In the 1970-80s, research by Bruce Alexander in Vancouver found that some of this addictive behavior in the caged rats was due to their social isolation and lack of stimulation 1-2.
- He used an experiment called the “Rat Park.”
- What are the human correlates of these findings?
 - Experience of abuse and neglect, especially in childhood, predisposes to addiction.
 - “ACEs” studies support this 3.
 - The converse is also true: e.g., Vietnam veterans had low rates of addiction post return despite heavy use of heroin in Vietnam.
 - Social support helps recovery.

Raz S, Behav Pharmacol 2010
Alexander BK, Pharmacol Biochem Behav 1981
Felitti et al, Am J Prev Med 1998

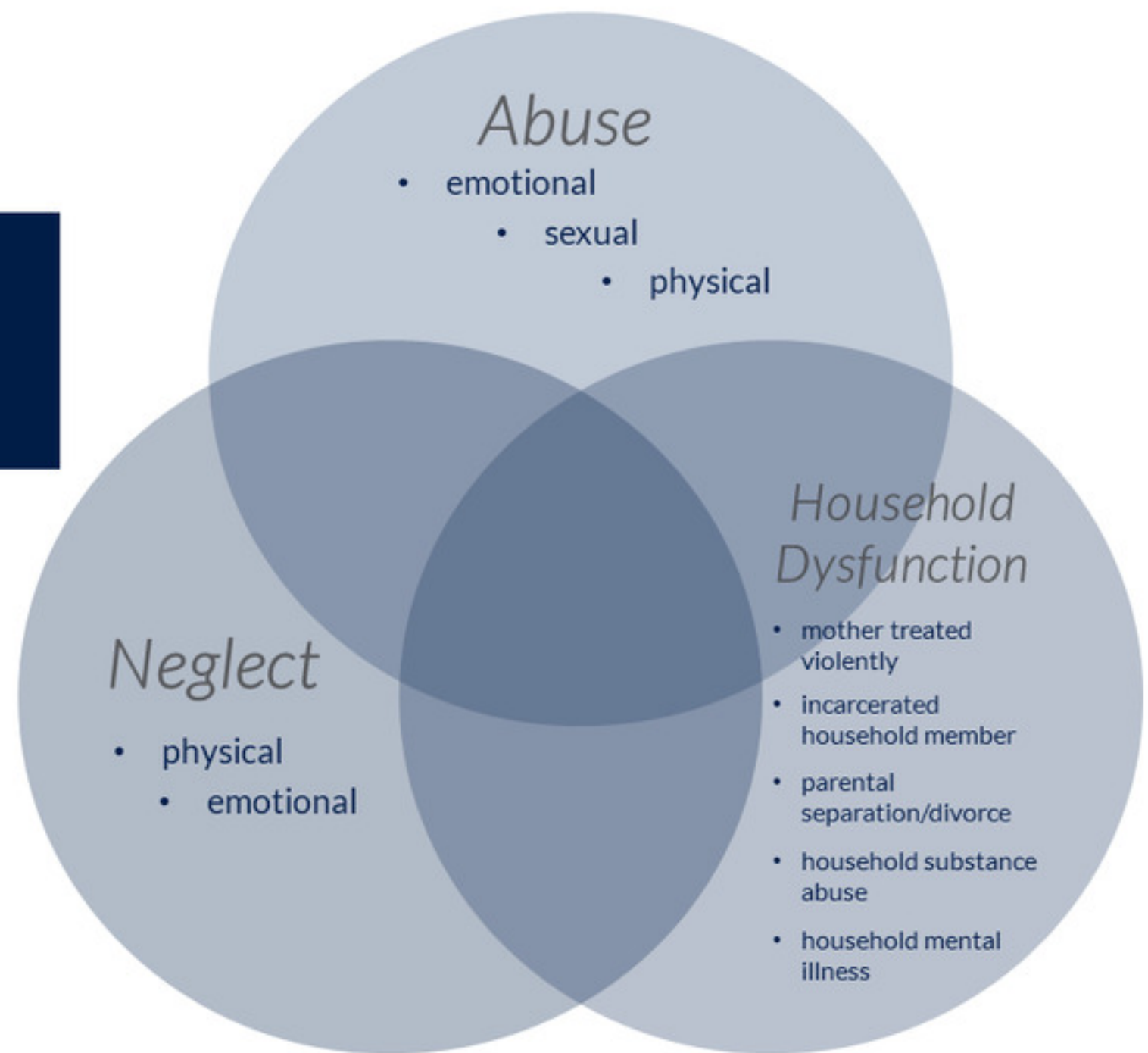


http://www.stuartmcmillen.com/comics_en/rat-park/#page-1



http://www.stuartmcmillen.com/comics_en/rat-park/#page-1

Adverse Childhood Events (ACE)



Adverse Childhood Events

- 17000 Kaiser members surveyed 1995-7.
- 2/3 reported at least one ACE.
- 1/5 reported 3 or more ACEs.
- Strongly predictive of negative outcomes later in life
- Each ACE associated with 2-4 fold increased risk of early initiation of drug use 2.
- Findings replicated in cohort of urban, poor, non-white patients in 2013.

Felitti, V, Am J Prev Med, 1998
Dube, Pediatrics, 2003
Mersky, Child Abuse, Neglect, 2013

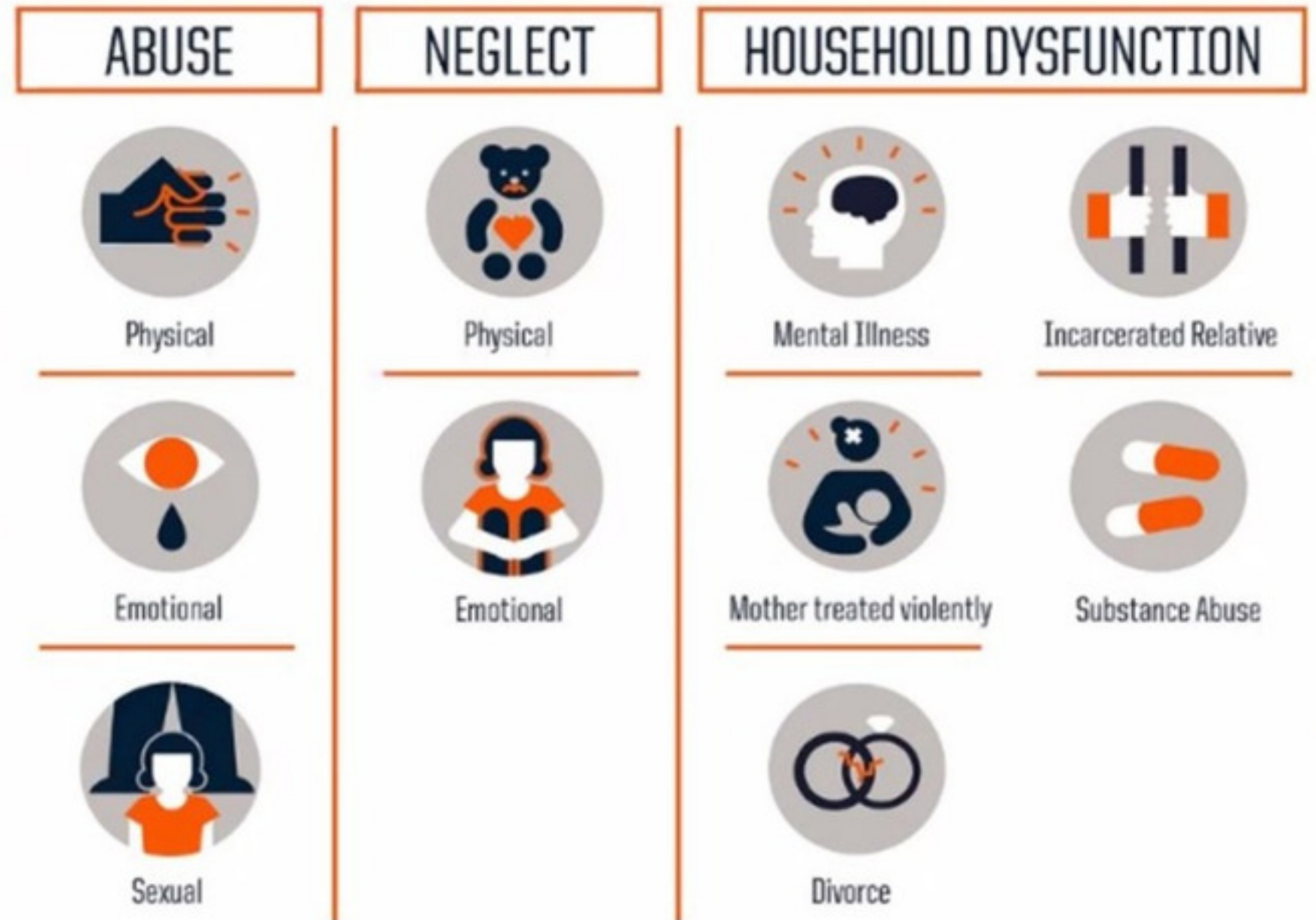


Adverse Childhood Events

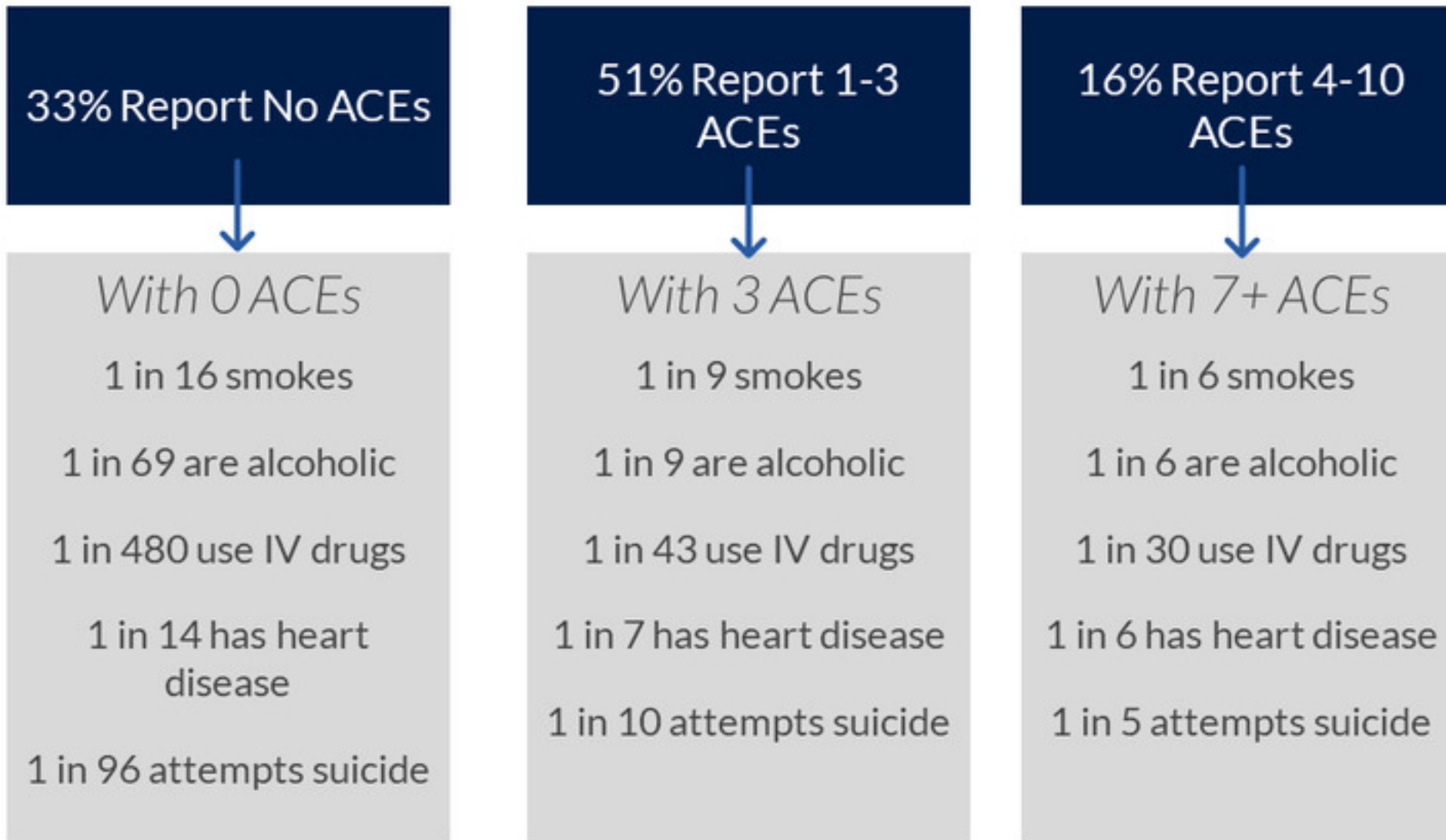
sexual abuse
mental illness
illicit drug use
ischemic heart disease
domestic violence
depression
adolescent pregnancy
substance abuse
incarceration
COPD
divorce
neglect
emotional neglect



Adverse Childhood Events (ACE)



Out of 100 people -

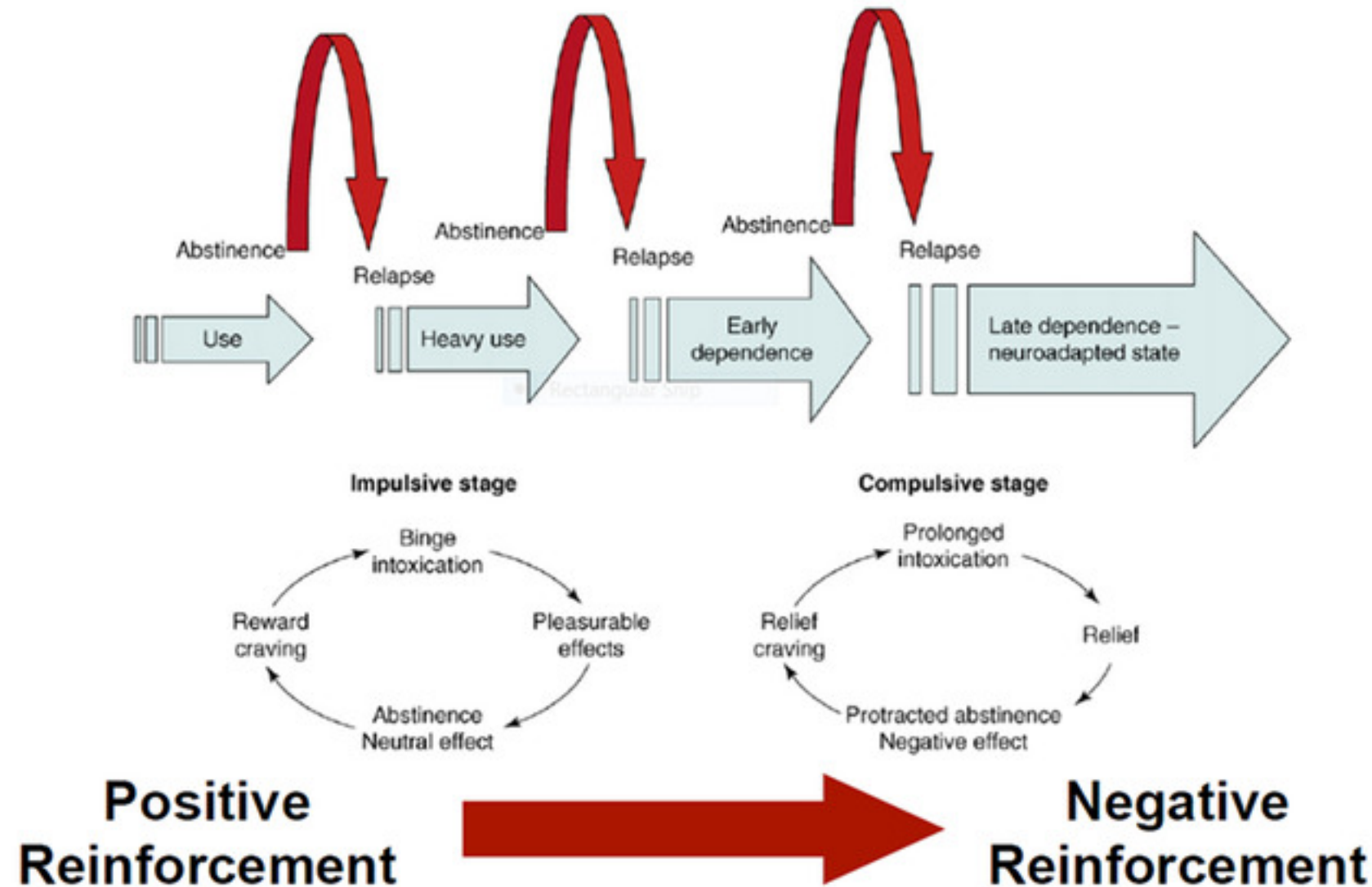


<https://azednews.com/the-impact-adverse-childhood-experiences-and-toxic-stress-have-on-students/>

Addiction is more complicated than just seeking rewards.



Transition from Positive to Negatively Reinforced Drug Use



From: Koob GF, *Alcohol Clin Exp Res*, 2003, 27:232-243.

The Role of Negative Reinforcement

- Drug taking to relieve a negative emotional state.
- Causes of negative emotional state?
- Decreases in reward neurotransmission.
- Activation of brain stress systems (e.g. corticotropin releasing factor, CRF).
- Impaired executive function.
- “It’s not fun anymore; I only do it to feel well.”

Koob GF, Handb Clin Neurol 2014
Weiss F, Advances Neurosci Addiction 2010

Impaired Cognition in Addiction



Neuroadaptation causes impairments in executive function.

- Self-regulation
- Decision making
- Flexibility
- Assignment of relative value (salience)
- Monitoring of error



Impaired ability to resist strong urges, or to follow through on a decision to stop using a drug.

Neuroadaptation causes impairments in executive function

Leaving Las Vegas Video & Discussion Activity



vimeo



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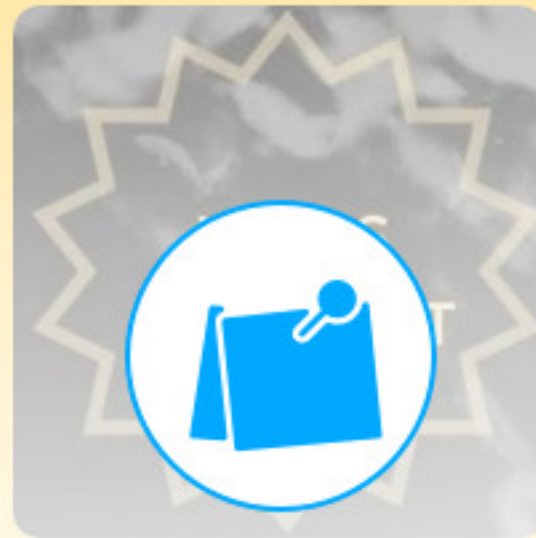
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Collaboration Board





Large Group Discussion **Collaborate Board**

Share examples of impaired executive function that you observed in Ben and you have observed in patients with substance use disorder. Do you feel differently now, knowing that the brain's executive function is impaired by chronic substance use?

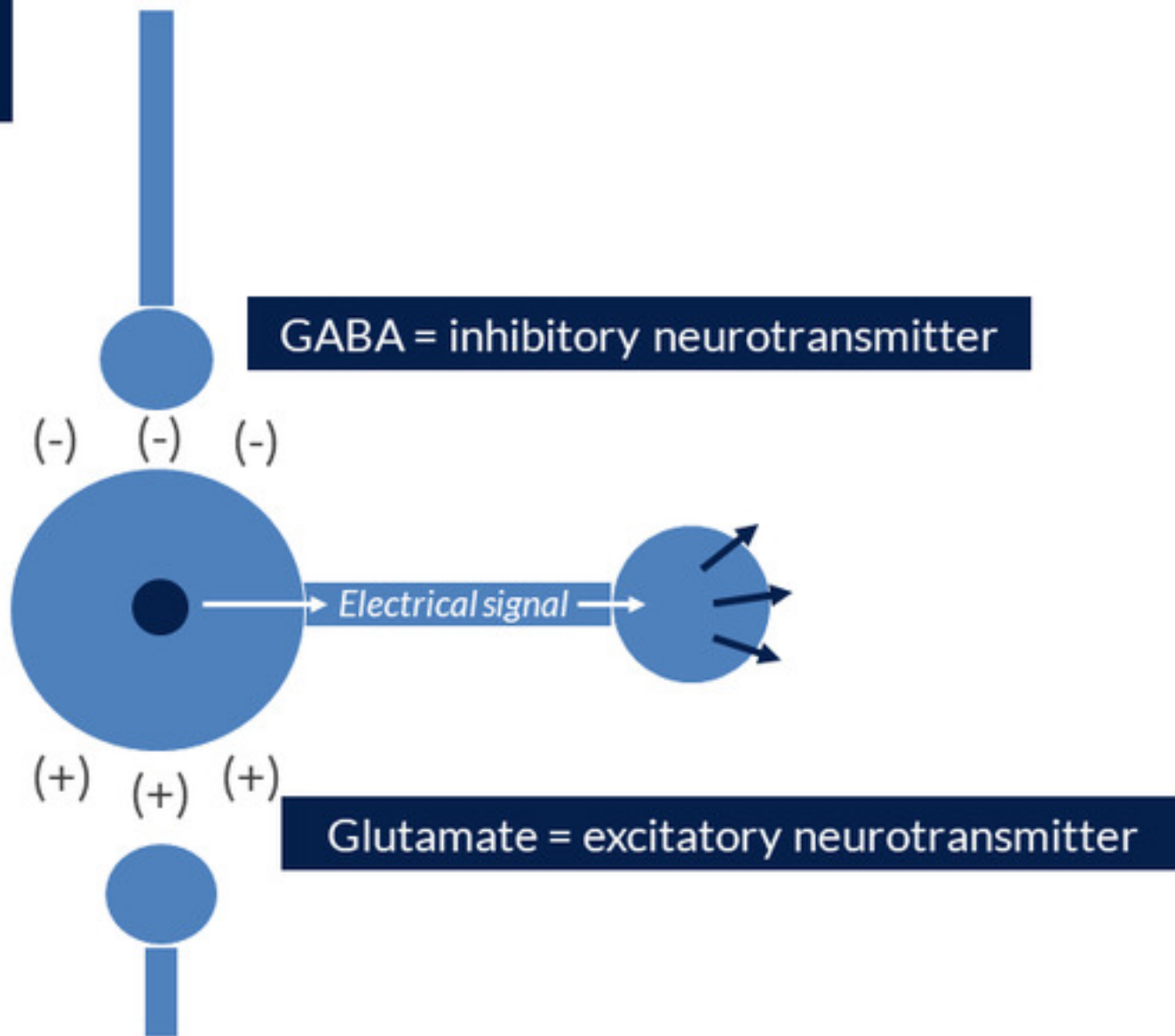
Large Group Discussion

Brain Adaptation: Tolerance and Withdrawal



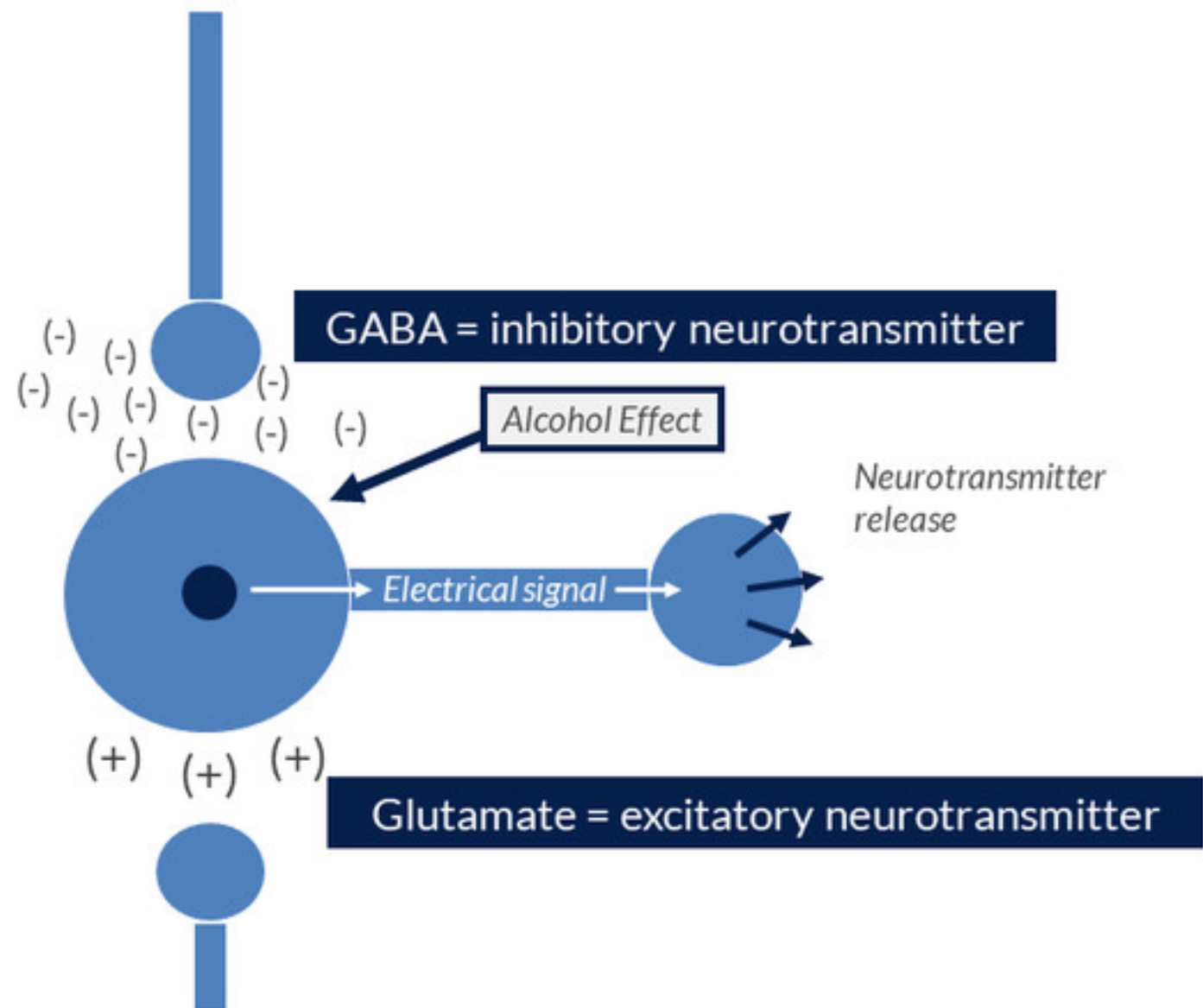
Homeostasis is the balance of excitement and inhibition of normal brain neurons.

Brain neuron in mesocorticolimbic and extended amygdala reward circuits.

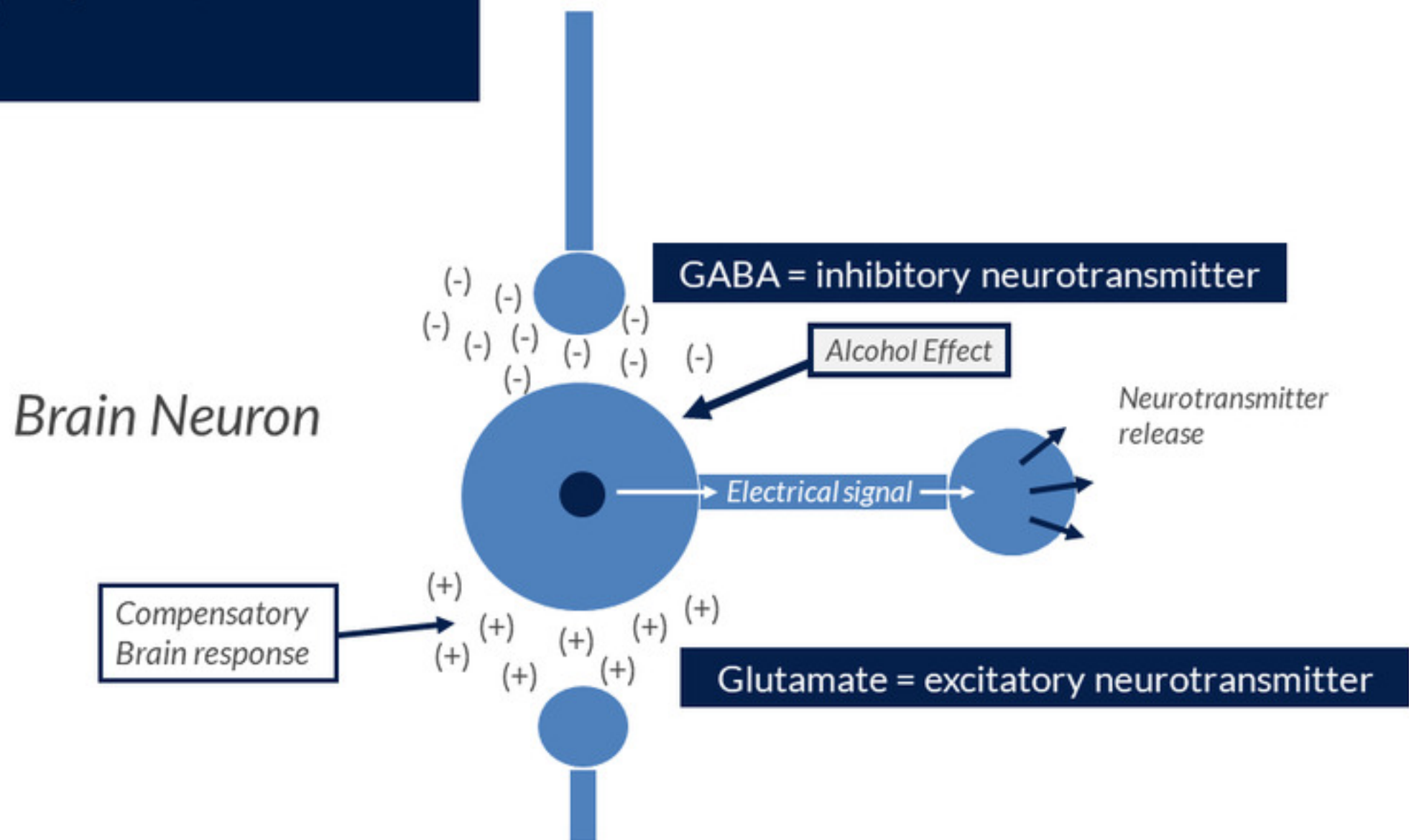


Rao PSS, Front Neurosci, 2015
Koob GF, Current Opin Neurobiol, 2013

Inhibitory Effect of Alcohol

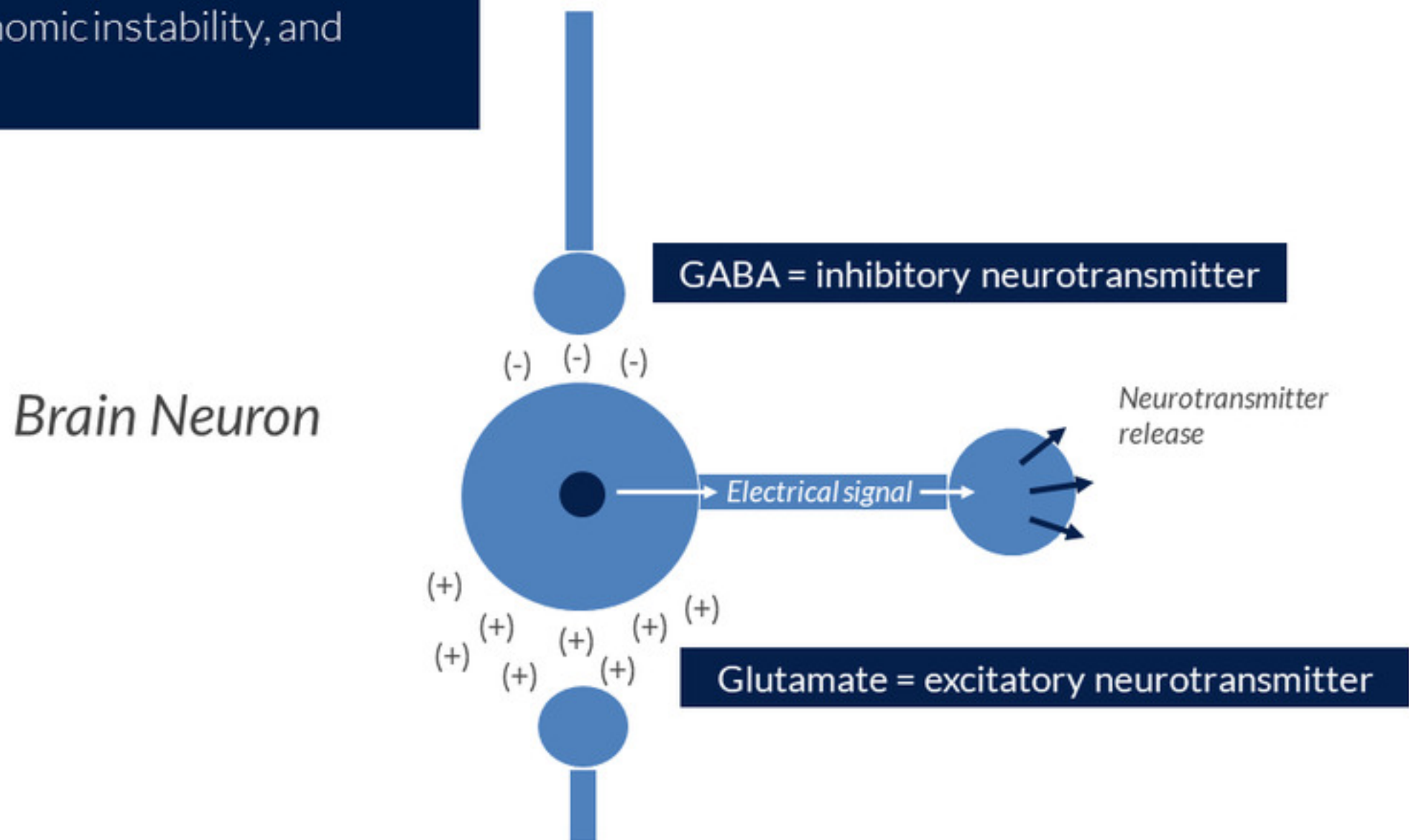


Brain compensation in response to chronic alcohol exposure; also known as “tolerance.”





Unopposed brain excitation during alcohol withdrawal produces tremor, anxiety, autonomic instability, and seizures.



Leaving Las Vegas Video (Tolerance and Withdrawal)



vimeo



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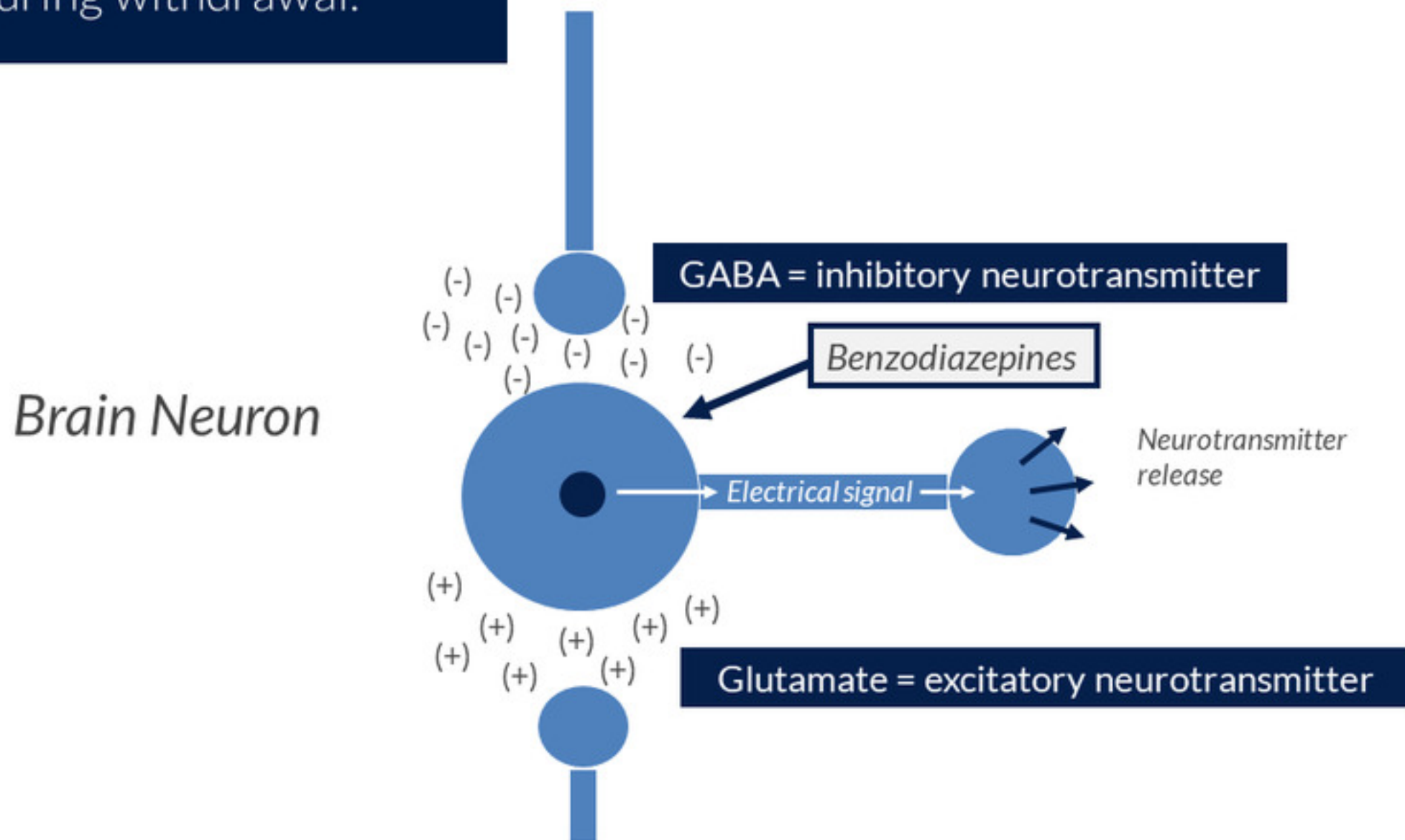
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Benzodiazepines mimic the effect of alcohol during withdrawal.



Leaving Las Vegas Video (Homeostasis)





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How did you feel when watching others react to Ben?

Collaborate Board

How did you feel when watching others react to Ben?

Triggering, Craving, & Relapse





Causes of Relapse

- *Triggering - Pavlovian conditioning.*
- *Stress.*
- *Negative neuropsychiatric adaptation.*

Weiss F, *Advances Neurosci Addiction* 2010
Ciccocioppo, *Neuropsychopharmacology*, 2002
Sinha, *Gen Psych*, 2006
Goodwin, *Compr Psychiatry*, 2002

How does triggering develop?





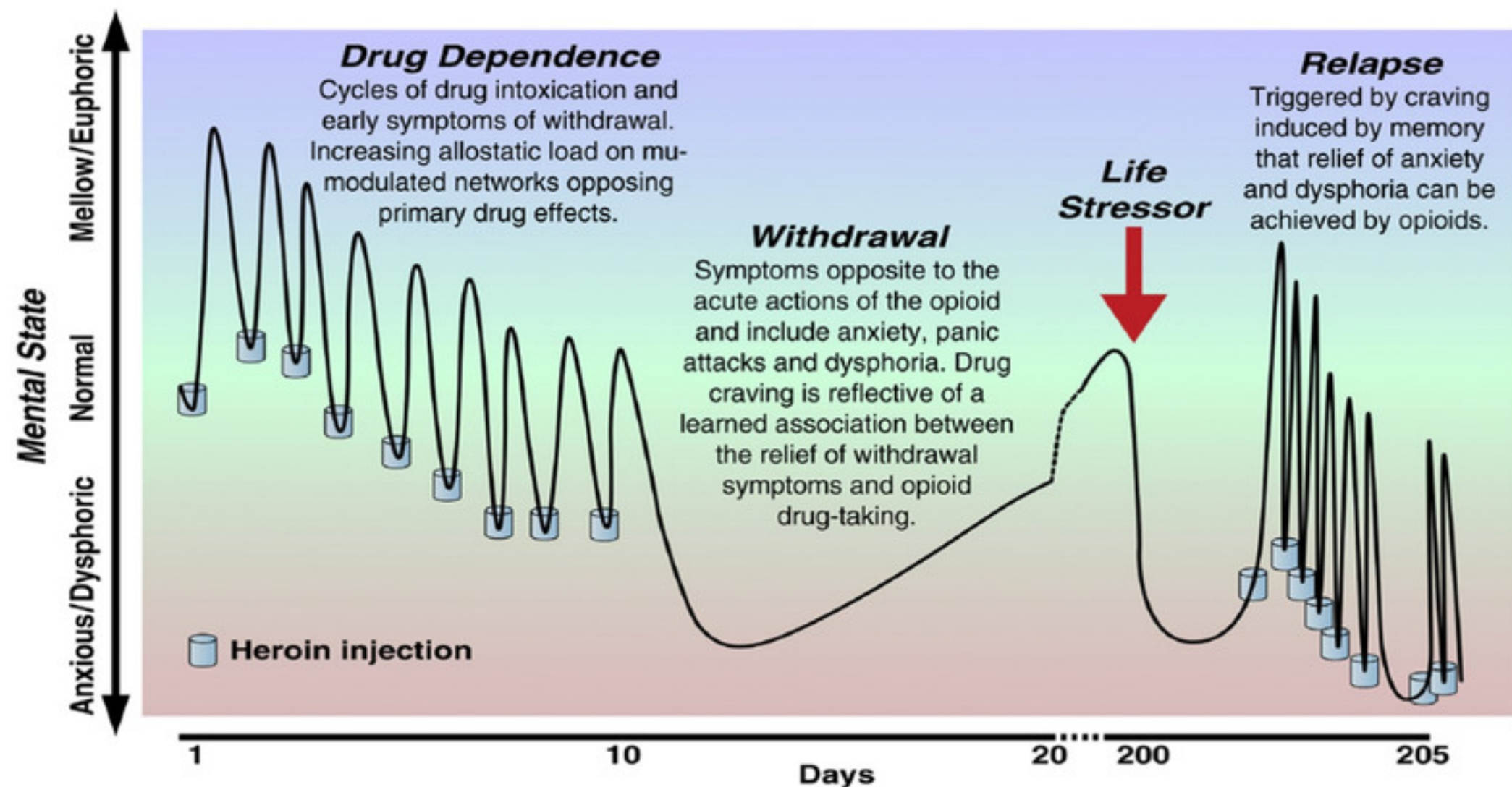


Figure 3. Allostatic framework for addiction to and withdrawal from opioid drugs, and relapse to opioid drug use. The diagram is based on "Laura's pathway to heroin addiction" from Evans and Cahill (103). A hypothetical scenario is provided about how the learned association of the relief of aversive states can lead to the development of addiction and the key role of opioid dependence therein. [Modified with permission from Evans and Cahill (103).]

Knowledge Checks



Quiz

Which of the following statements most accurately describes the mechanism of the reward pathway implicated in addiction?

- ☐ Dopamine increase in the nucleus accumbens.
- ☐ Adrenaline increase in the locus coeruleus.
- ☐ Endocannabinoid increase in the prefrontal cortex.
- ☐ Acetyl choline increase in the substantia nigra.
- ☐ Glutamate increase in the nucleus accumbens.

Quiz

A 25-year-old male finds that he feels very good when he drinks alcohol. He drinks 5 to 7 standard drinks most evenings while watching television. He says that alcohol helps him to “chill” and feel more relaxed. What neurochemical receptors are most responsible for this feeling?

- ☐ Endocannabinoid A
- ☐ Serotonin
- ☐ Glutamate
- ☐ GABA
- ☐ Norepinephrine

Quiz

Jenny is a 23-year-old woman who is seeking help to control her alcohol use. She has had a recently broken up with her boyfriend of three years. She discloses that every time she passes the location at which she and her boyfriend broke up, she feels an overwhelming urge to drink alcohol. What is the best description for what Jenny is describing?

- ☐ Stress-induced relapse
- ☒ Negative reinforcement
- ☐ Triggering
- ☐ Euphoria
- ☐ Withdrawal syndrome

Quiz

Which stimulus causes the greatest levels of peak dopamine release in the brain?

- ☐ Tobacco
- ☐ Sexual stimulation
- ☐ Morphine
- ☐ Ethanol
- ☐ Amphetamine

Quiz

Medication with benzodiazepines during alcohol withdrawal is effective, in part, because these medications have the following effect:

- ☐ Block the reward pathway
- ☐ Counteract the effect of excess glutamate
- ☐ Activate the endocannabinoid receptors
- ☐ Inhibit serotonergic response
- ☐ Increase tolerance

Session Feedback



Poll

Presenters were knowledgeable, unbiased, engaging.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neither Agree nor Disagree
- ☐ Agree
- ☐ Strongly Agree

Poll

This session enhanced my current knowledge and/or skill base.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Neither Agree nor Disagree
- ☐ Agree
- ☐ Strongly Agree

CLINICAL MANIFESTATIONS OF THE NEUROBIOLOGY OF ADDICTION

End of Session 2



Day 2 Reminders



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Medications for Managing Substance Withdrawal

ASAM/MPCA Fundamentals of Addiction Medicine Course – 2021

Alcohol – Alcohol withdrawal may cause a life-threatening withdrawal syndrome, which if untreated can lead to delirium tremens, severe agitation, seizures, coma, and death. The initial focus should be to rapidly load patients with appropriate medication with the goal of preventing progression of withdrawal symptoms.

The foundation of treatment of alcohol withdrawal in the US is benzodiazepines. Most experts prefer longer acting BZs, such as chlordiazepoxide or diazepam, unless there is a specific indication for another choice.

Gabapentin has also been shown to be effective for alcohol withdrawal. In milder cases, gabapentin can be sufficient by itself, and in more severe cases it can be used as an adjunct to BZ treatment. Doses need to be started at 100 mg per day or higher with a taper over several days as symptoms resolve.

Adjuvant medications, such as anticholinergics for insomnia may also have a role, as well as supplemental thiamine.

For a complete treatment approach, refer to the ASAM guidelines:

https://www.asam.org/science/the_asam_clinical_guidelines

Opioids – While the withdrawal from opioids is not life-threatening, it is associated with severe dysphoria, insomnia, and severe restlessness. Withdrawal can be difficult, since the only medications that are effective for opioid withdrawal symptoms are other opioids.

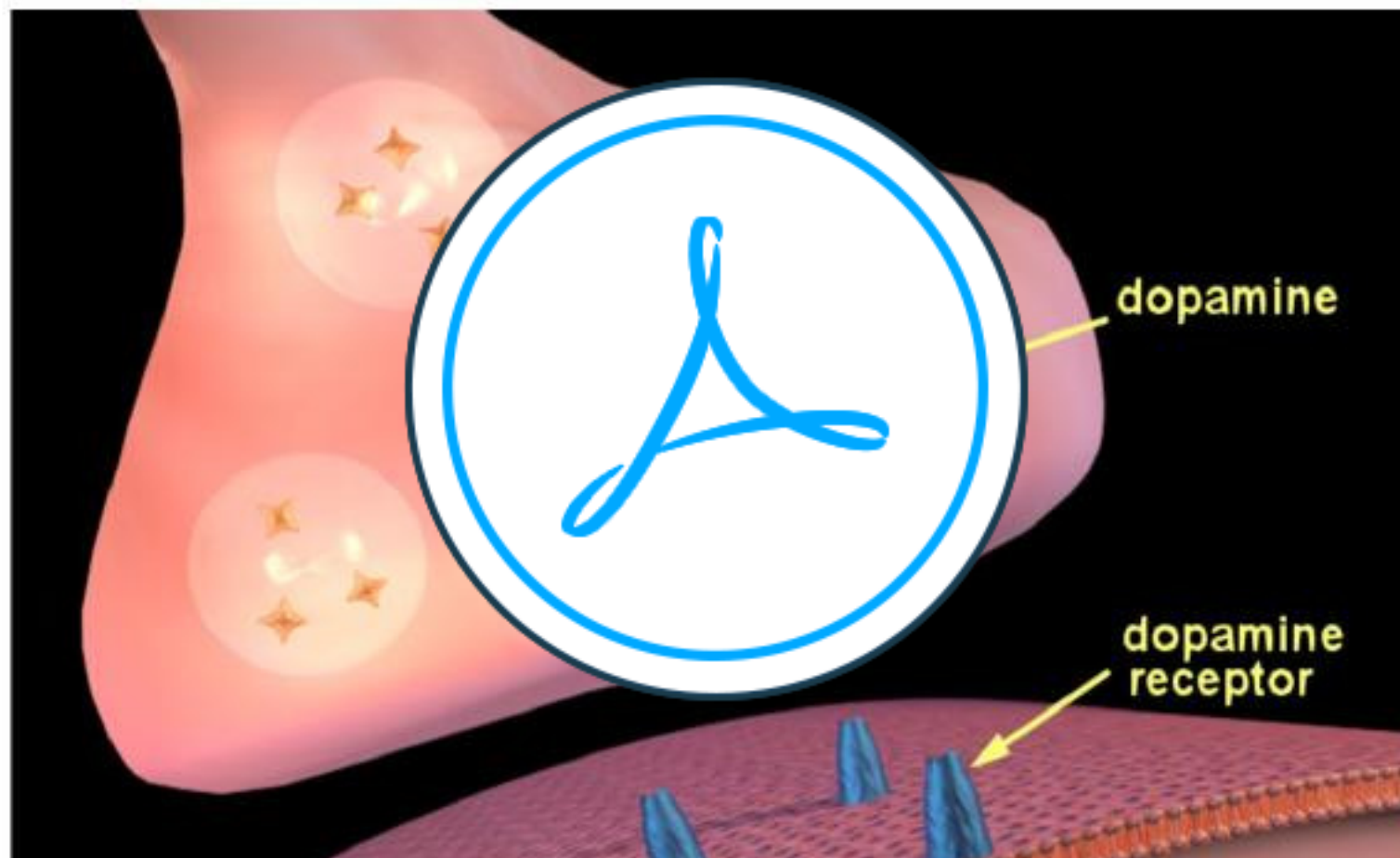
Once the acute phase of opioid withdrawal has been managed, it is important to address the increased risk of opioid overdose that continues for several months. Consideration should be given in all cases to placing patients on MOUD, possibly followed by a slow taper, rather than acute withdrawal management. All patients should be offered a naloxone rescue kit and instructions.

Treatment for opioid withdrawal consists of using clonidine or lofexidine to help reduce sympathetic outflow from the CNS. Other medications may include anti-nausea, anti-



Refer to the ASAM National Practice Guidelines for more details:

Dopamine Release Causes Pleasure



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THANK YOU

