

# Registration

- Please take a few minutes to sign in using the link or QR Code below. The QR Code can be scanned with your phone's camera to open the link.

<http://sgiz.mobi/s3/Jan-17-SUD>



# DISCLOSURES

## **This activity is jointly provided by Northwest Portland Area Indian Health Board and Cardea Services**

Cardea Services is approved as a provider of continuing nursing education by Montana Nurses Association, an accredited approver with distinction by the American Nurses Credentialing Center's Commission on Accreditation.

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Institute for Medical Quality/California Medical Association (IMQ/CMA) through the joint providership of Cardea Services and Northwest Portland Area Indian Health Board. Cardea Services is accredited by the IMQ/CMA to provide continuing medical education for physicians.

Cardea Services designates this live training for a maximum of 1 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim credit commensurate with the extent of their participation in the activity.



# DISCLOSURES

## **COMPLETING THIS ACTIVITY**

Upon successful completion of this activity 1 contact hour will be awarded

Successful completion of this continuing education activity includes the following:

- Attending the entire CE activity;
- Completing the online evaluation;
- Submitting an online CE request.

Your certificate will be sent via email

If you have any questions about this CE activity, contact Michelle Daugherty at [mdaugherty@cardeaservices.org](mailto:mdaugherty@cardeaservices.org) or (206) 447-9538



# CONFLICT OF INTEREST

None of the planners or presenters of this CE activity have any relevant financial relationships with any commercial entities pertaining to this activity.





# Neurobiology and Diagnosis of SUDs

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OHSU Addiction Medicine Section

# Disclosures

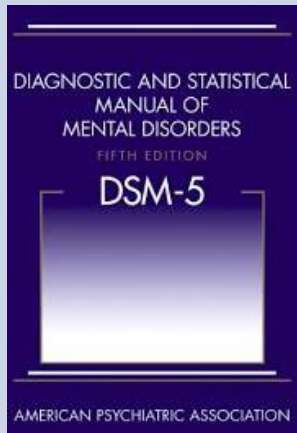
Nothing to disclose

# Objectives

1. Review the diagnostic criteria for substance use disorders
2. Understand how substance use disorders develop

# Objective 1

Review the diagnostic criteria for substance use disorders

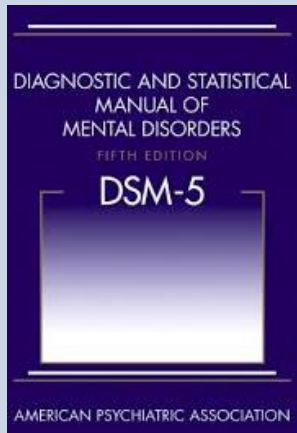


## DSM V

### Diagnostic and Statistical Manual of Mental Disorders

11 criteria

Craving/Compulsion/Consequences/Loss  
of Control



## *DSM V: Substance Use Disorder*



Taking in larger amounts or for longer than intended



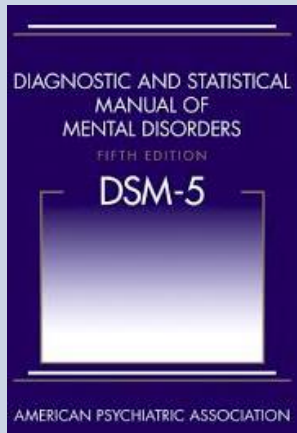
Unsuccessful efforts to cut down



Spending a lot of time obtaining the substance



Craving or a strong desire to use the substance



## *DSM V: Substance Use Disorder*



Continued use despite recurring social or interpersonal problems due to use



Important activities given up or reduced



Recurrent use in physically hazardous situations



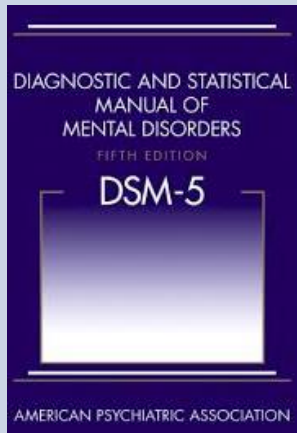
Persistent / Recurrent physical or psychological difficulties from use



Recurrent use resulting in a failure to fulfill major role obligations



**SADLY, MOTHMAN ALLOWS  
ANOTHER CRIMINAL TO ESCAPE**



## *DSM V: Substance Use Disorder*



Tolerance\*



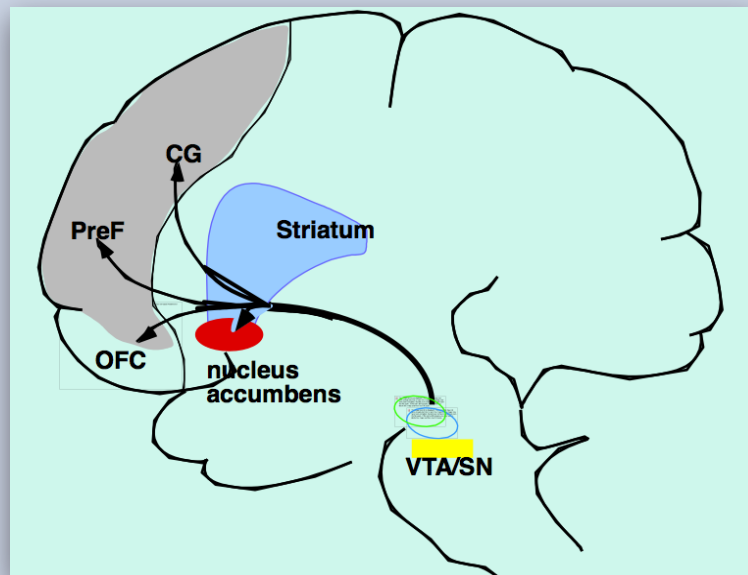
Withdrawal\*

## Substance Use Disorder



## Objective 2

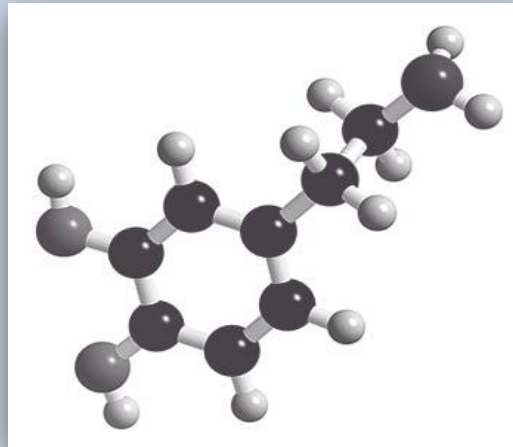
Understand how substance use disorders develop



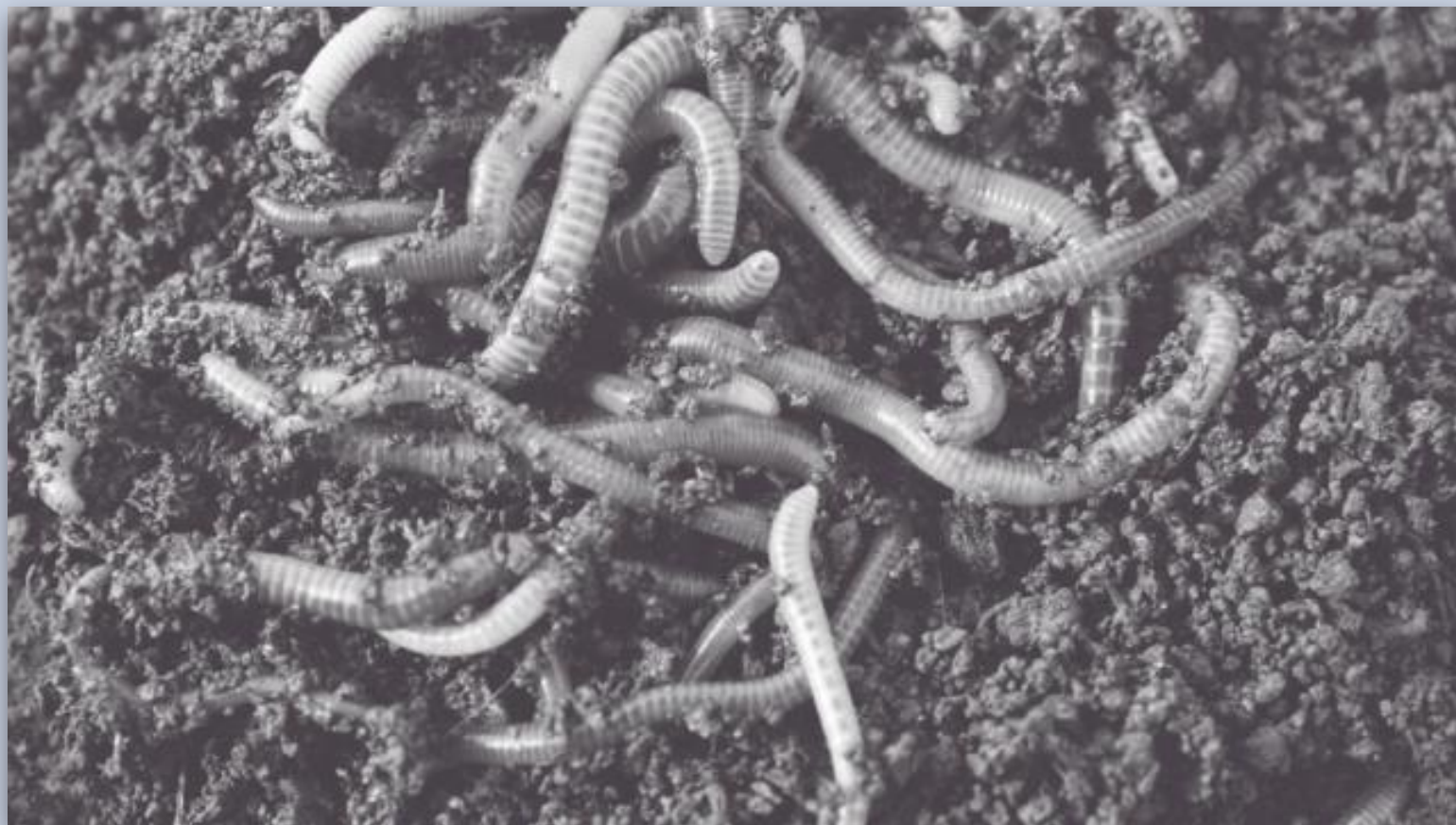
1950s : electrodes

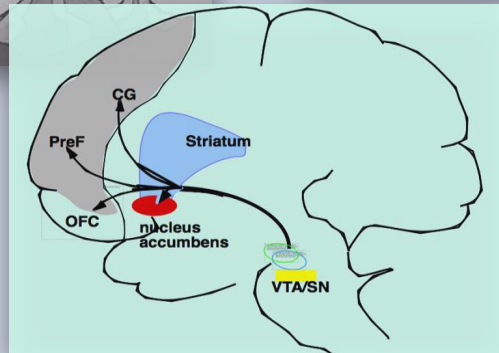


1970s: Dopamine



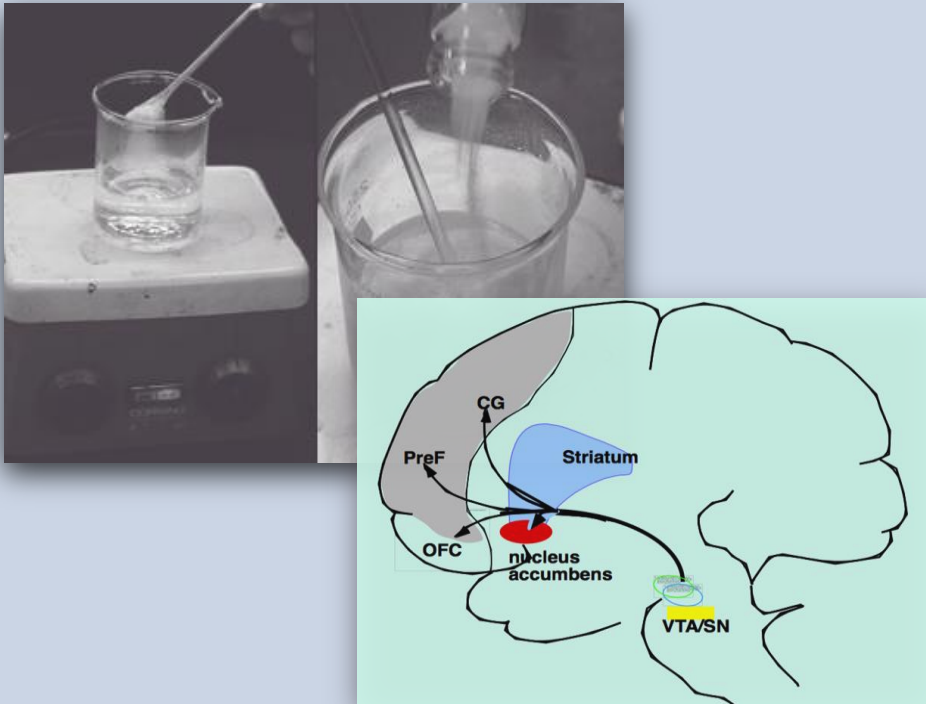
 Desire and Drives





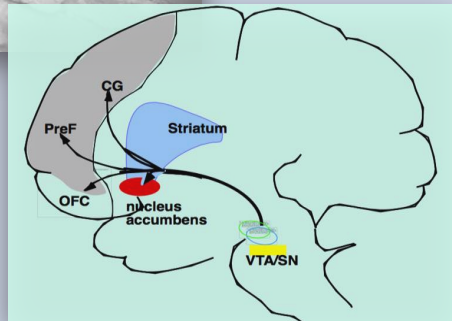
- Mediate responses to food, sex, social interactions
- Connects with memory and emotional centers

# Craving



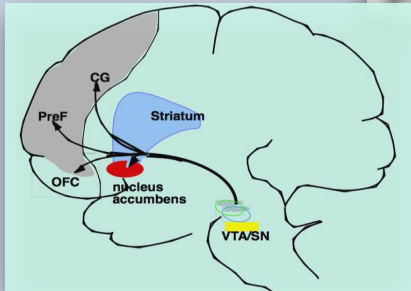
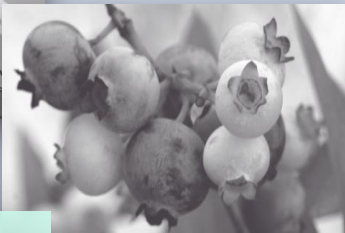
- All addictive drugs activate this pathway
- Drug experience is deeply linked to memory and emotion
- People, places, things associated with drug use can trigger cravings

# Liking



- Opioids: Activate DA receptors
- Also activate opioid receptors in NA and produce feeling of satiety, soothing, comfort.

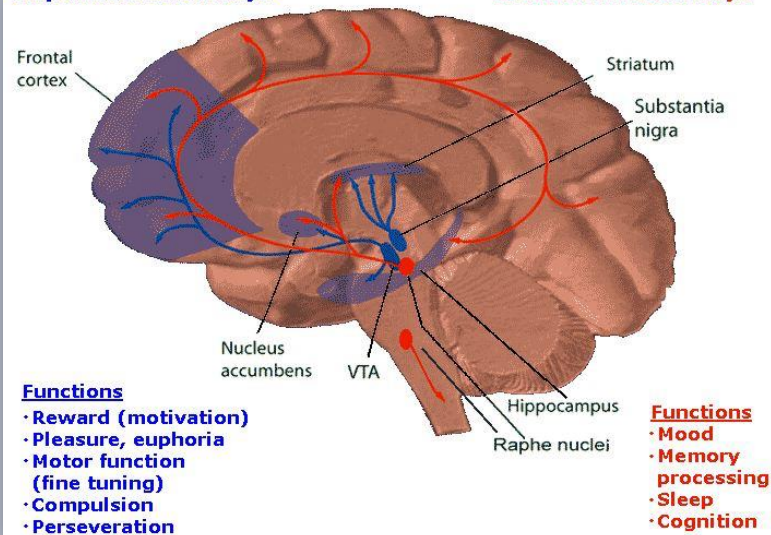
# Dysregulation



- Dysregulation: impaired ability of the front of the brain, to regulate what is going on in the older regions of the brain.
- Prefrontal cortex helps determine the risks and benefits of behaviors and make rational choices.
- Repeated activation of the VTA to NAC track slowly strengthens those connections. Habits get hard wired, fast and automatic

### Dopamine Pathways

### Serotonin Pathways



**D1: Activate the nucleus accumbens, cause us to act  
Responsive to big pleasure surges.**

**D2: Slow down decision making, allow the frontal cortex  
to step in. Responsive to smaller pleasures.**





# Conclusion

- Diagnose substance use disorders with the DSM V criteria
- Addiction taps into normal brain processes
- Use despite negative consequences is part of addiction
- Substance use disorders are treatable.



Thank You

Questions?