HOW TO IDENTIFY AND TREAT ADHD IN METHAMPHETAMINE USE DIOSRDER

UW PACC

LEARNING OBJECTIVES

- - Understand the epidemiologic link between ADHD and methamphetamine use disorder (MUD)
- - Recognize the diagnostic challenges of identifying ADHD in active or recently abstinent methamphetamine users
- - Apply validated screening and diagnostic tools in this population
- - Select appropriate pharmacologic and behavioral treatments per current guidelines (ASAM/AAAP 2024)
- - Implement risk mitigation strategies when prescribing stimulants

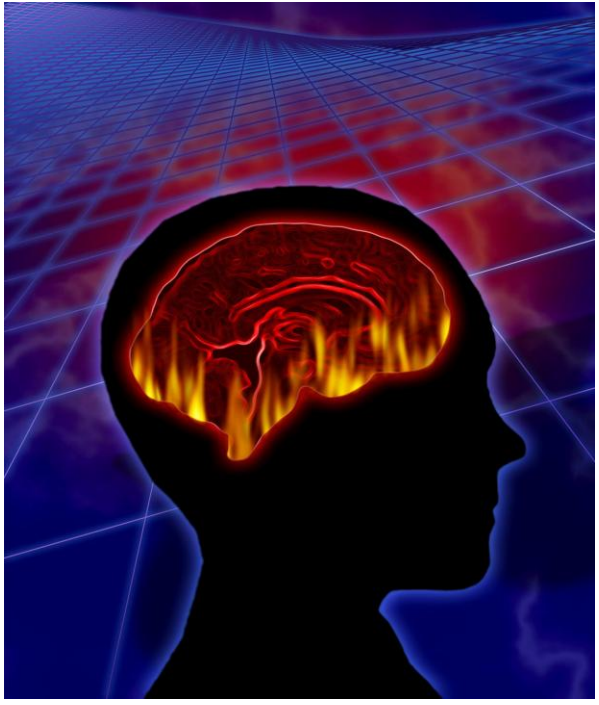
UW PACC

A COMMON CLINICAL DILEMMA

28-year-old male presents for methamphetamine treatment

Reports:

- Daily methamphetamine use for 4 years
- Lifelong difficulty focusing and completing tasks.
- Multiple unfinished projects and impulsive spending
- Multiple job losses related to poor organization
- Severe fatigue and poor concentration during withdrawal
- “Meth helps me slow my thoughts down”
- Previously used a friend’s Adderall and “felt calmer”
- Requests stimulant treatment for presumed ADHD



CLINICAL QUESTIONS

Primary ADHD?
Methamphetamine-induced symptoms?
Withdrawal-related cognitive dysfunction?
Stimulant-seeking behavior?
Or all of the above?

Would you diagnose ADHD today?

WHY THIS TOPIC MATTERS NOW

ADHD & Substance Use Disorders

- ADHD prevalence is significantly higher in SUD populations
- ADHD associated with:
  - Earlier substance initiation
  - Increased impulsivity
  - Poorer treatment retention
  - Higher relapse risk

Untreated ADHD may silently drive ongoing stimulant addiction.

UW PACC

WHY THIS TOPIC MATTERS NOW

Rising Methamphetamine Crisis

-Methamphetamine use continues to rise nationally
-Methamphetamine Use Disorder (MUD) is linked to: Cardiovascular complications, Psychosis, Cognitive impairment,Increased HIV/STI risk,Functional and psychosocial decline
- No FDA-approved pharmacotherapy for MUD

Untreated ADHD may silently drive ongoing stimulant addiction.

UW PACC

EPIDEMIOLOGY: ADHD PREVALENCE IN MUD

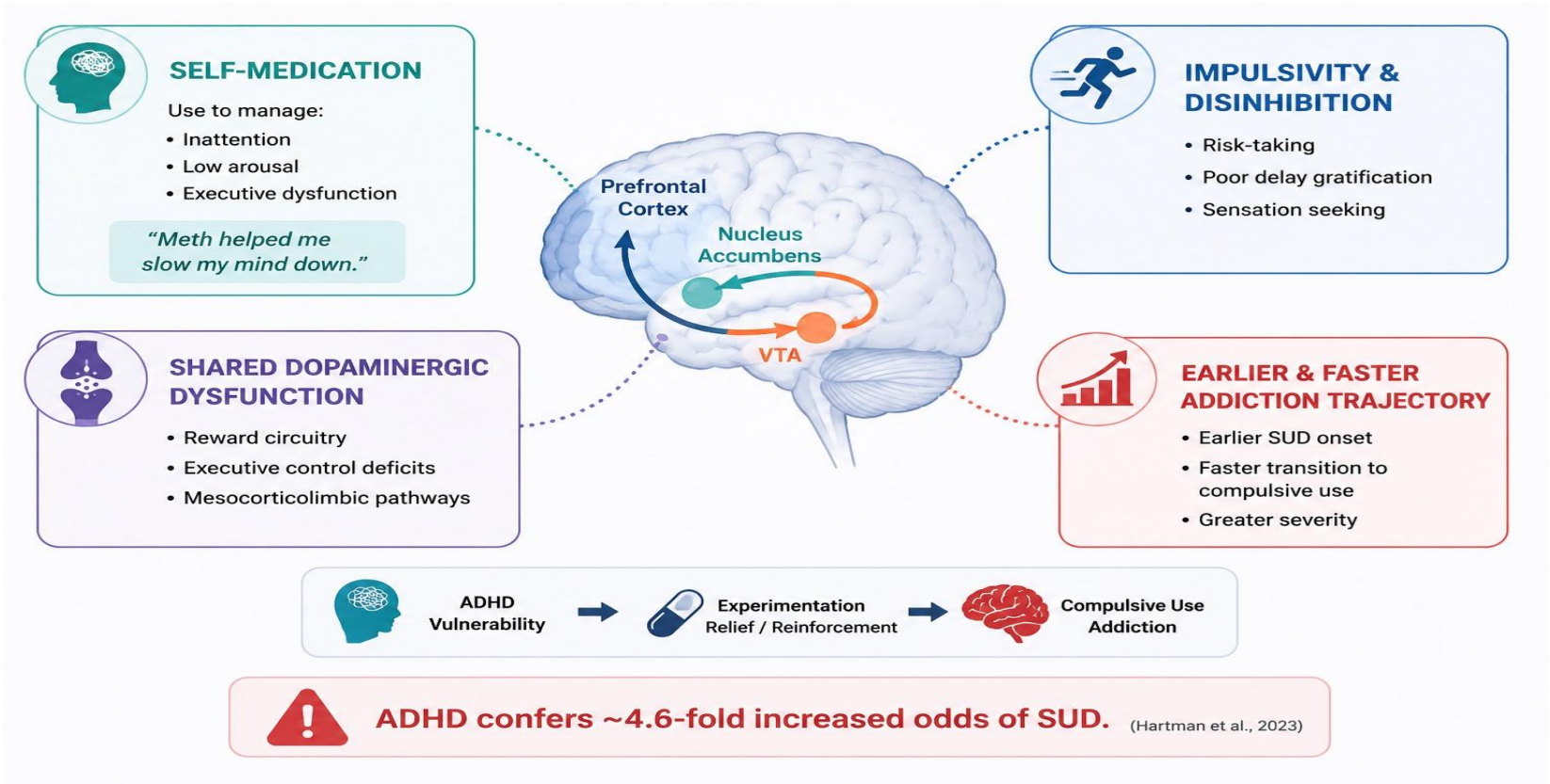
- Lifetime ADHD prevalence among chronic methamphetamine users: **~21% vs. ~6%** in non-users **(Obermeit et al., 2013)**

- Meta-analytic estimate of ADHD in SUD populations overall: **~21–23% (Rohner et al., 2023; van Emmerik-van Oortmerssen et al., 2012)**

- Hyperactive/impulsive and combined subtypes are disproportionately represented

- ADHD persists into adulthood at higher rates in methamphetamine users

THE RELATIONSHIP: ADHD → MUD



THE BIDIRECTIONAL RELATIONSHIP: MUD → ADHD

🧠 Chronic methamphetamine use associated with cognitive symptoms:

- Attention deficits
- Slowed processing speed
- Executive dysfunction

📊 ~Two-thirds of individuals with MUD show cognitive impairment on formal testing
(Paulus & Stewart, JAMA Psychiatry, 2020)

METHAMPHETAMINE INTOXICATION CAN MIMIC ADHD

- Impulsivity
- Distractibility
- Hyperactivity
- Agitation
- Rapid thoughts
- Emotional lability
- Insomnia
- Risk-taking behavior
- Impaired judgment
- Increased energy

UW PACC

WHEN METHAMPHETAMINE WITHDRAWAL LOOKS LIKE ADHD

- Fatigue
- Poor concentration
- Low motivation
- Cognitive slowing
- Restlessness
- Executive dysfunction
- Difficulty sustaining attention
- Sleep disturbance
- Irritability

Withdrawal-related cognitive dysfunction may resemble inattentive ADHD.

UW PACC

THE DIAGNOSTIC CHALLENGE

- Symptom overlap: both ADHD and MUD produce inattention, impulsivity, executive dysfunction, emotional dysregulation

- Intoxication and withdrawal states can mimic or mask ADHD

- Cognitive deficits from chronic methamphetamine use may hinder accurate recall of childhood symptoms

- Risk of overdiagnosis (substance-induced symptoms misattributed to ADHD) and underdiagnosis (ADHD symptoms attributed to substance effects)

- Patients may feign symptoms to obtain stimulant medications

CAN ADHD BE DIAGNOSED DURING ACTIVE USE?

Key Study: Van Emmerik-van Oortmerssen et al. (2017): Prospective test–retest study in **127 patients with Substance Use Disorders**

- ADHD assessments repeated after partial/full abstinence (~78 days later)
- **95.3%** of initial ADHD diagnoses were confirmed at follow-up
- ADHD symptom counts showed good agreement: ICC = **0.65–0.69**
- ADHD subtype classification was less stable: κ = **0.53**

- ASAM/AAAP 2024 guideline: biopsychosocial assessment for StUD should include ADHD screening

- **Conclusion**: Diagnosing ADHD during active substance use is feasible and should not be delayed

UW PACC

DIAGNOSTIC FRAMEWORK: STEP 1 — SCREENING

- Adult ADHD Self-Report Scale (ASRS v1.1 / DSM-5 version): 6-item screener; sensitivity ~84–91%, high NPV (~97%) in SUD populations

- Validated in SUD treatment-seeking patients (van de Glind et al., 2013)

- Caveat: lower specificity in illicit drug users vs. alcohol users; lower cut-offs may be needed in SUD populations (Luderer et al., 2019)

- Screen all patients presenting with MUD

UW PACC

DIAGNOSTIC FRAMEWORK: STEP 2 — COMPREHENSIVE ASSESSMENT

- Structured diagnostic interview: **DIVA-5 (Diagnostic Interview for ADHD in Adults, DSM-5) or CAADID**

- Key elements:

- **Establish childhood onset (symptoms before age 12)**

- Document symptoms across **≥2 settings**

- Obtain collateral history (family, school records, prior evaluations)

- Assess functional impairment attributable to ADHD independent of substance use

- **Timeline-based approach:** map ADHD symptoms against periods of use, abstinence, and withdrawa

UW PACC

DIAGNOSTIC FRAMEWORK: STEP 3 — DIFFERENTIAL DIAGNOSIS COMORBIDITY

Rule out / identify overlapping conditions:

- Methamphetamine-induced cognitive impairment
- Mood disorders
  - Depression (~16%)
  - Bipolar disorder
- Anxiety disorders (~7%)
- Psychotic disorders (~13%)
- Traumatic brain injury (TBI)
- PTSD / trauma-related disorders
  - ~44% prevalence of childhood abuse/neglect in MUD populations
- Sleep disorders

- Use DSM-5-TR Cross-Cutting Symptom Measure to screen broadl

- ADHD and these conditions frequently co-occur — comorbidity is the rule, not the exception

CLINICAL PEARLS FOR DIAGNOSIS

- **Childhood history** is the anchor: true ADHD predates substance use

- Ask about s**chool performance, behavioral reports, prior evaluations** before substance use onset

- Symptoms that **persist during sustained abstinence** (weeks to months) strongly support ADHD

- Collateral informants are invaluable — patients with ADHD often underreport symptoms

- **Neuropsychological testing** can supplement but is not required for diagnosis

- **Document the timeline**: ADHD symptoms → substance use initiation → current presentation

UW PACC

TREATMENT OVERVIEW: INTEGRATED, MULTIMODAL APPROACH

- According ASAM 2024 guidelines

- Three pillars:

1. Pharmacotherapy (stimulant or non-stimulant)

2. Behavioral interventions for ADHD (CBT-based skills training)

3. Concurrent evidence-based treatment for MUD (contingency management, CBT, community reinforcement)

- **Integrated treatment > sequential treatment**

PHARMACOTHERAPY: STIMULANT MEDICATIONS

- ASAM/AAAP 2024: Prescribing psychostimulants is appropriate when benefits outweigh risks (Strong Recommendation)

- Preferred: Extended-release / long-acting formulations (Strong Recommendation)

- Extended-release methylphenidate (e.g., OROS-MPH)

- Lisdexamfetamine (prodrug — lower misuse potential)

- Evidence: Some studies show reduction in both ADHD symptoms and methamphetamine use; no consistent increase in stimulant misuse

- Patients with StUD-acquired tolerance may require higher doses to reach clinical benefit

- Methylphenidate may also reduce methamphetamine craving and use independently

PHARMACOTHERAPY: NON-STIMULANT MEDICATIONS

- Consider when stimulant risks outweigh benefits **(Strong Recommendation)**

- **Atomoxetine** (FDA-approved for ADHD; no misuse potential; limited evidence for reducing addictive behavior)

- Bupropion (off-label for ADHD; also has evidence for MUD treatment — dual benefit)

- **Clonidine / guanfacine (**off-label; may help hyperactivity/impulsivity)

- Non-stimulants are generally less effective for ADHD symptoms than long-acting stimulants

- **Bupropion + naltrexone** combination: evidence for MUD reduction (Trivedi et al.) — consider when treating both conditions

UW PACC

RISK MITIGATION WHEN PRESCRIBING STIMULANTS

-PDMP check prior to prescribing (every visit)

- Use extended-release or prodrug formulations to reduce misuse potential

- Monitoring strategies:

- Pill counts

- Urine drug testing

- More frequent clinical visits

- For adolescents/young adults: directly observed administration by trusted adult

- Safe storage counseling

- Cardiovascular screening at baseline; monitor BP and HR

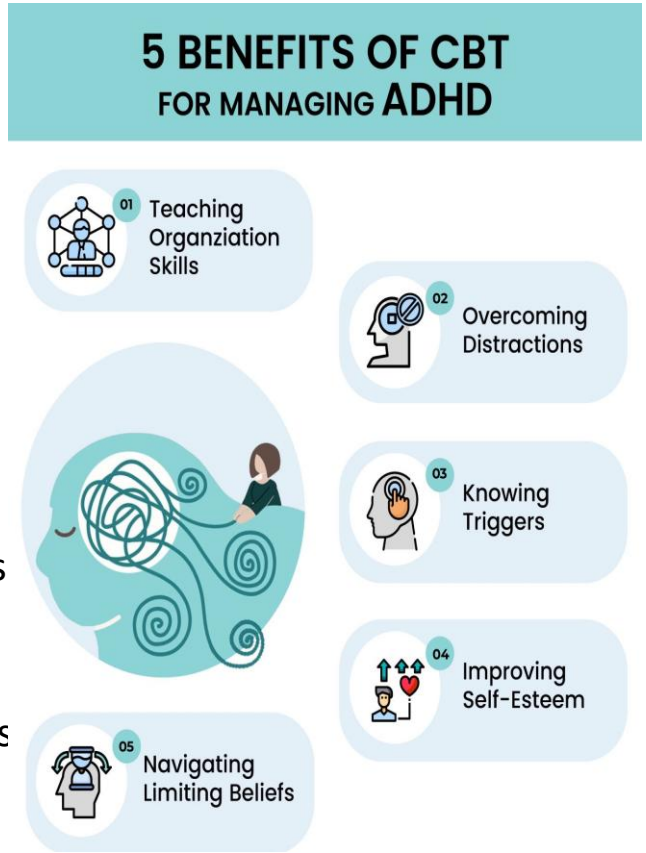
- Greater caution with preexisting hypertension, cardiovascular disease, or psychosis

UW PACC

BEHAVIORAL INTERVENTIONS FOR ADHD

CBT adapted for adult ADHD:

- Organizational skills training
- Time management strategies
- Cognitive restructuring for negative self-beliefs
- Emotional regulation skills
- Psychoeducation about ADHD and its relationship to substance us
- Skills-based coaching and environmental modifications
- Should be combined with pharmacotherapy for optimal outcomes



UW PACC

TREATING THE MUD: CONTINGENCY MANAGEMENT

- ASAM/AAAP 2024: Strongly recommended for StUD (high certainty of evidence)

- Best-studied and most effective behavioral intervention for MUD

- Rewards abstinence (verified by urine drug screens) with escalating incentives

- Example: VHA protocol — twice-weekly UDS over 12 weeks; escalating gift card values for consecutive negative screens

- Abstinence rates at 16 weeks: 34.5% (CM) vs. 3.4% (standard care)

- Combine with CBT or community reinforcement approach

TREATING THE MUD: PHARMACOTHERAPY FOR MUD ITSELF

- No FDA-approved medications for MUD

- ASAM/AAAP conditional recommendations (off-label):

- Naltrexone XR (380 mg IM q3wk) + bupropion XL (450 mg daily): 13.6% vs. 2.5% achieved ≥3 negative urines (Trivedi et al.)

- Mirtazapine (30 mg daily): modest reduction in methamphetamine use

- Topiramate: limited evidence

- Methylphenidate at higher doses may reduce methamphetamine use — dual benefit in ADHD-MUD patients

- Lisdexamfetamine associated with reduced hospitalization/death in Swedish cohort study (Hartikainen et al., JAMA Psychiatry 2023)

SPECIAL POPULATIONS

- Adolescents and young adults: Directly observed medication administration

- Safe storage of controlled medications,Family psychoeducation

- Patients with co-occurring psychosis:Greater caution with stimulants; consider non-stimulant options first

- ~36–43% of MUD patients experience psychotic symptoms

- Patients with co-occurring opioid use disorder:Bupropion preferred over naltrexone combination (naltrexone contraindicated with methadone/buprenorphine)

- Pregnant patients: risk-benefit discussion; limited data

UW PACC

PUTTING IT ALL TOGETHER: A CLINICAL ALGORITHM

1. Screen all MUD patients for ADHD using ASRS

2. If screen-positive → comprehensive diagnostic interview (DIVA-5/CAADID) with collateral history

3. Confirm childhood onset, cross-setting impairment, and functional impact independent of substance use

UW PACC

PUTTING IT ALL TOGETHER: A CLINICAL ALGORITHM

4. If ADHD confirmed → initiate integrated treatment:

- Start contingency management + behavioral therapy for MUD

- Begin ADHD pharmacotherapy (extended-release stimulant preferred; non-stimulant if higher risk)

- Add CBT for ADHD

- Implement risk mitigation and monitoring plan

5. Reassess ADHD symptoms and substance use at regular intervals; adjust treatment accordingly

UW PACC

KEY TAKEAWAYS SUMMARY

- ADHD is present in ~1 in 5 patients with MUD — screen routinely

- Diagnosis during active use is feasible; do not delay assessment

- Childhood symptom history and collateral information are essential to distinguish ADHD from substance-induced cognitive effects

UW PACC

KEY TAKEAWAYS

- ASAM/AAAP 2024 guidelines support stimulant treatment for ADHD in StUD when benefits outweigh risks, with appropriate monitoring

- Extended-release formulations and prodrugs reduce misuse risk

- Contingency management is the cornerstone behavioral treatment for MUD

- Integrated, multimodal treatment of both conditions simultaneously yields the best outcomes

UW PACC

WHY DO SOME PATIENTS SAY METH HELPS THEM FOCUS?

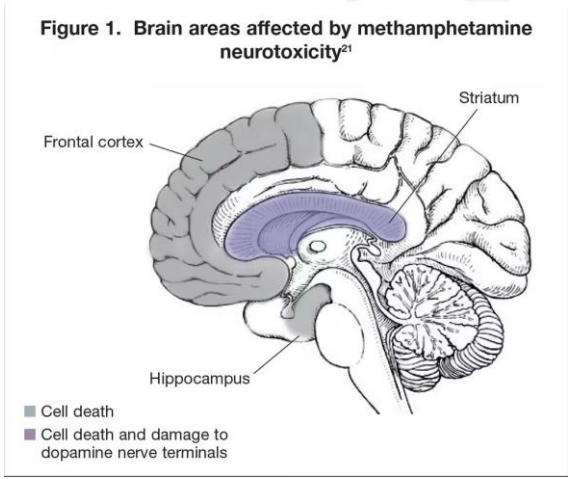
ADHD

- Dopamine dysregulation
- Executive dysfunction
- Impaired reward processing
- Inattention & impulsivity

Is this euphoria… or temporary cognitive relief?

Methamphetamine

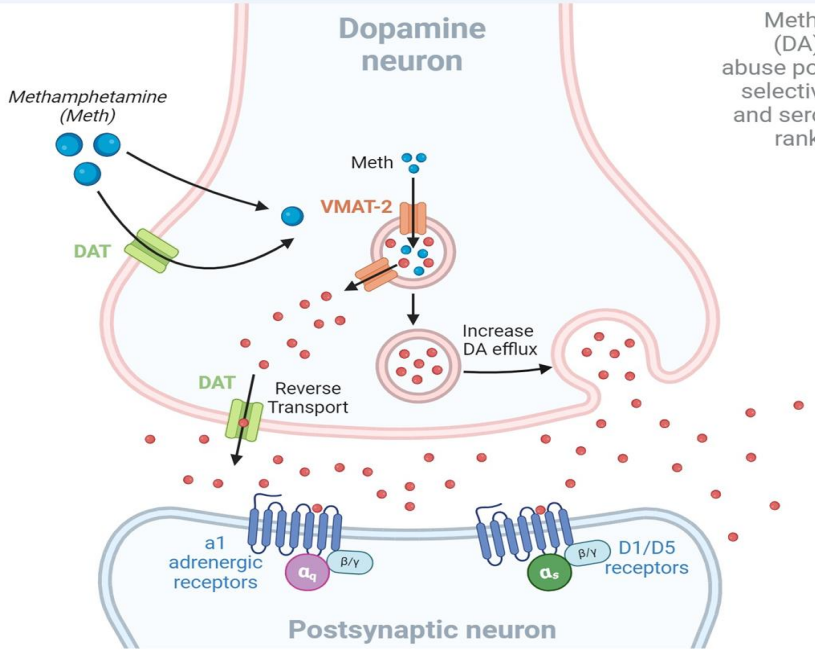
- Massive dopamine release
- Temporary increase in focus/energy
- Reinforcement of reward pathways
- Neuroadaptive dopamine depletion



PACC

HOW DOES METHAMPHETAMINE ACT IN THE BRAIN?

Primary Methamphetamine Mechanism of Action

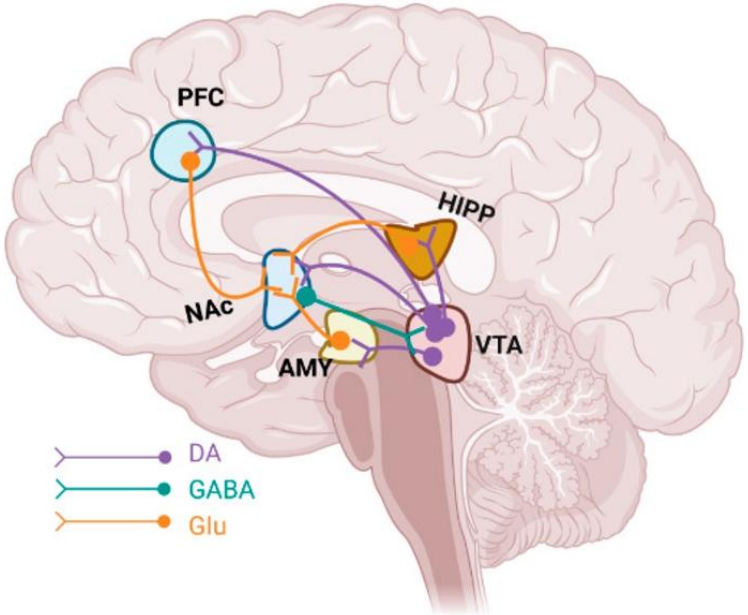


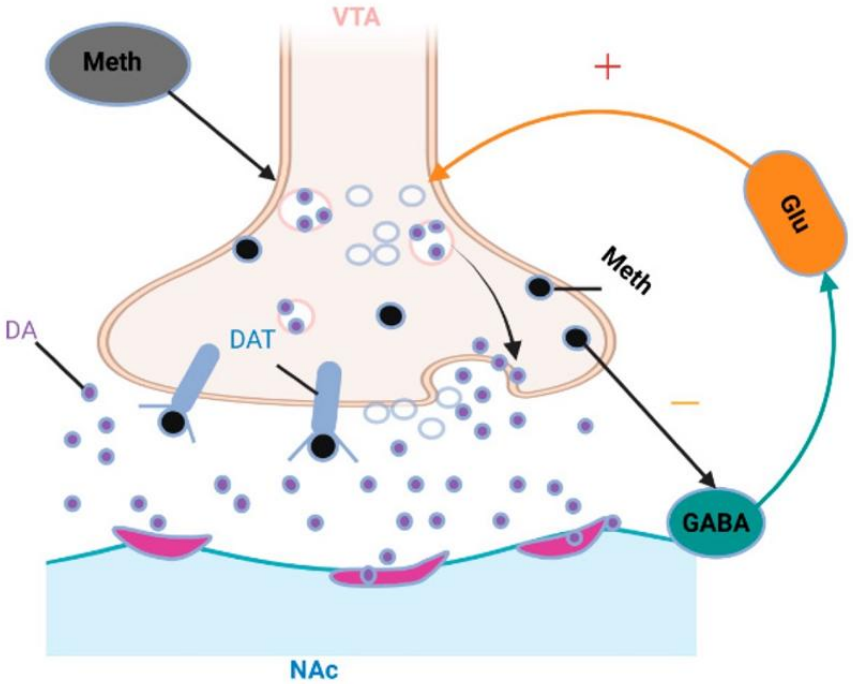
Meth interferes with dopamine (DA) release, thus aiding in its abuse potential. However, it is also selective for norepinephrine (NE) and serotonin (5-HT) transporters ranking in the following order: NE > DA > 5-HT

Rothman *et al.* (2001)

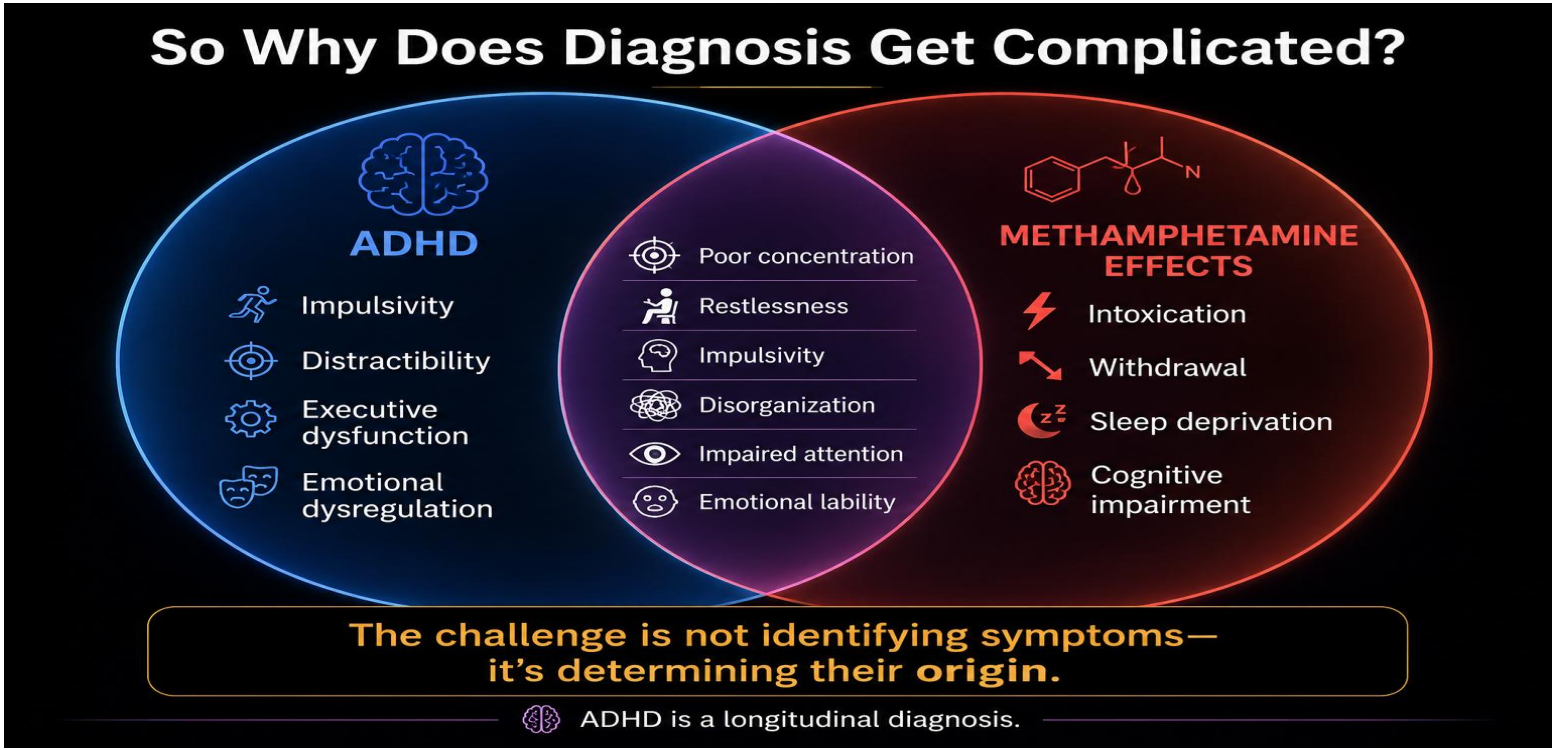
UW PACC

HOW DOES METHAMPHETAMINE TEMPORARILY IMPROVE?





THE DIAGNOSTIC CHALLENGE



WHEN SHOULD WE SUSPECT TRUE ADHD?

Clues suggesting primary ADHD:

- Symptoms before substance use
- Childhood onset of attention/executive difficulties
- Persistent symptoms during abstinence
- Functional impairment across multiple settings
- Chronic disorganization and poor task completion
- Lifelong impulsivity or emotional dysregulation
- Family history of ADHD
- Symptoms not fully explained by intoxication or withdrawal

WHAT MAKES ME MORE CAUTIOUS ABOUT DIAGNOSING ADHD?

Be cautious during:

- Acute intoxication
- Early withdrawal
- Severe sleep deprivation
- Active psychosis
- Mania / hypomania
- Severe anxiety or depression
- Unstable substance use

Table 1: DSM 5 criteria for adult ADHD

DSM 5 criteria - Adult ADHD

Criteria A	Five or more symptoms of inattention or hyperactivity/impulsivity
Criteria B	Several symptoms present by the age 12
Criteria C	Several symptoms present in two or more settings
Criteria D	Several interfere with or reduce quality of social, economical or occupational functioning
Criteria E	Symptoms are not better explained by another condition, such as mood disorder

DSM 5 ADHD symptoms - Inattention

- **INATTENTION (nine symptoms)**

a) Lack of attention to detail, make careless mistakes
b) Difficulty sustaining attention
c) Does not listen when spoken to directly
d) Trouble completing or finishing jobs or tasks
e) Problems organizing tasks and activities
f) Avoids or dislikes sustained mental effort
g) Loses and misplaces things
h) Easily distracted
i) Forgetful in daily activities

DSM 5 ADHD symptoms - hyperactivity/impulsivity

- **HYPERACTIVITY (six symptoms)**

a) Fidgetiness (hands or feet) or squirming in seat
b) Leaves seat when not supposed to
c) Restless or overactive
d) Difficulty engaging in leisure activities quietly
e) Always 'on the go'
f) Talks excessively

- **IMPULSIVITY (three symptoms)**

g) Blurts out answers before questions have been completed
h) Difficulty waiting in line or taking turns
i) Interrupts or intrudes on others when they are working or busy

This table shows the criteria for an adult ADHD diagnosis as per DSM-5 guidelines