Virtual Colorado MAT Learning Forum

Stimulant Use Disorder: A Quick Overview - Diagnosis and Treatment

Jeremy Dubin, D.O. , FASAM; Medical Director – Front Range Clinic

Nov 7, 2019

Monthly Webinars

- ***Virtual CO MAT Learning Forum***

  1st Thursday 12:30pm-1:30pm

  REGISTER

- ***Induction Basics: Tips from the Trenches****

  2nd Tuesday 7:30am-8:30am

  REGISTER

  * *same topic each month*

- ***Denver Health Learning Collaborative***

  3rd Wednesday 12:15pm-1:15pm

  REGISTER

Denver Health Addiction Journal Club

- 2019 Dates
  - Tuesday, September 24
  - Tuesday, October 22
  - Monday, November 10
  - Monday, December 16
- Time; noon to 1 pm
- To join; email ITMATTTRs2@UCDENVER.EDU

Stimulant Use Disorder

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NORTHERN COLORADO MAT LEARNING FORUM

Methamphetamine Basics

Mixture of pseudoephedrine and ephedrine

New manufacturing decreased with reduced pseudoephedrine availability

Cost down from 270$/gm in 2007 to 80$/gm currently

Purity from 40% to 80%

Available as powder (tablet) or crystalline form (“ice” “Crystal Meth”)

Urine Detection: less than 4 days (7 days if heavy use)

High: immediate if smoked/injected; slower onset (< 20 min), but long duration (8-12 hrs) if po / intranasal/ pr

Methamphetamine Neurobiology

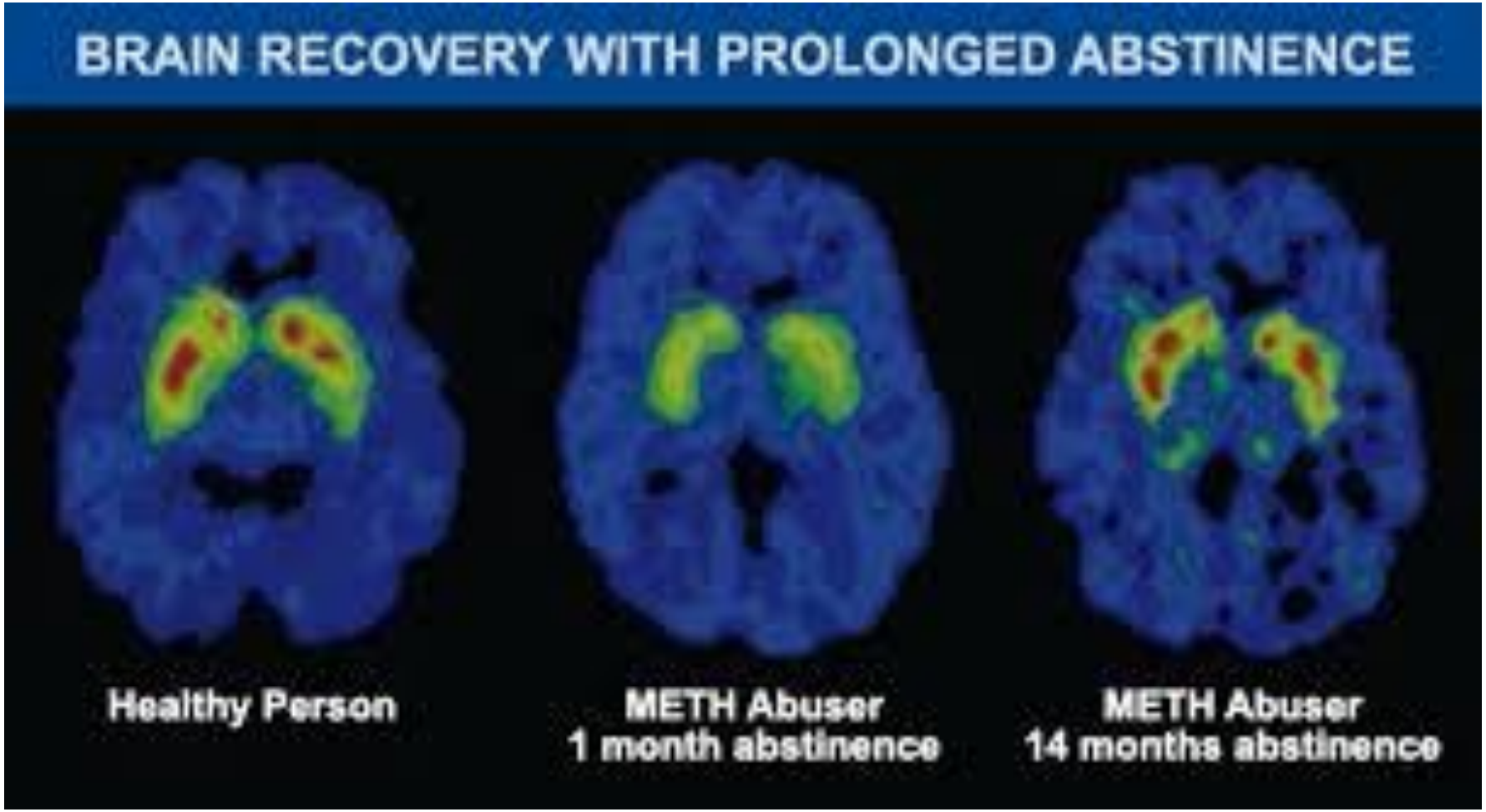
- Related to dopamine, norepinephrine and serotonin systems
- Presynaptic neuronal release with depletion
- Downstream involvement in opioid system
- Reduced anterior circulate and prefrontal cortex activity (linked with diminished cognitive functioning)

Sabrini et al, Drug Alc Dependence, 2019: 194: 75-87

Methamphetamine abuse – Clinical Presentation

- Potent CNS Stimulation – Disinhibition, euphoria, elevation, enhanced sense of self, energy – Tachycardia, increased heart rate
- Acute: anxiety, talkativeness, paranoia, psychosis, stereotypies/picking, dyskinesias, cardiovascular/stroke, hyperthermia, circulatory failure
- Chronic: depression, neurotoxicity & neurocognitive dysfunction (executive dysfunction), cardiovascular
- Withdrawal (immediate – 2+ wks) – Depression most common (anhedonia)

Courtney and Ray, Drug Alc Dep: 2014:143: 11-20 Sabrini et al, Drug Alc Dependence, 2019: 194: 75-87


BRAIN RECOVERY WITH PROLONGED ABSTINENCE
Healthy Person
METH Abuser
1 month abstinence
METH Abuser
14 months abstinence

Stimulant Use Disorder

- Amphetamine related hospitalizations have increased 245 % between 2005 – 2015
  - Opioids have increased by 43% in this time

Clinical Psychiatry News – Nov. 27,2018

Stimulant Use Disorder - Treatment Approach

- **Mild stimulant use disorder** — "the evidence"
  - 1st-line: individual or group drug counseling.
  - If only partial or no response after three weeks → **intensive outpatient therapy (IOT)** rather than other treatments.
  - If no sustained abstinence after an 8- to 12-week trial of IOT → contingency management or the individual component of IOT can be replaced by cognitive-behavioral therapy (CBT) or motivational interviewing.
  - CBT and contingency management have been found to be efficacious for stimulant use disorder in clinical trials.

Stimulant Use Disorder – Treatment Approach

- **Moderate to severe stimulant use disorder – "the evidence"**
  - 1st Line: IOT
  - No sustained abstinence after 8-12 weeks → augment w/ contingency management or the individual component of IOT can be replaced by CBT or motivational interviewing.
  - Treatment options may be limited by the unavailability of some of these interventions in some geographic areas

Stimulant Use Disorder – Treatment Approach

- **Treatment-resistant stimulant use disorder – "the evidence"**
  - Patients who continue to relapse after 8 to 12 weeks of treatment with the most intensive psychosocial intervention can be evaluated for adjunctive medication
  - There is a lack of compelling evidence of the efficacy of medications compared with placebo.
  - Some evidence suggests that the combination of medication (desipramine, buproprion, or citalopram) and psychosocial interventions (contingency management or cognitive-behavioral therapy) for stimulant use disorder may be more efficacious than either modality alone.
    - Example: 160 patients with DSM-IV cocaine and opioid dependence (maintained on buprenorphine) randomly assigned to receive desipramine or placebo in conjunction with either contingency management or a noncontingent voucher control.
    - Cocaine-free and combined cocaine and opiate-free urines increased more rapidly over time in patients assigned to receive desipramine or contingency management compared with controls. Patients assigned to receive both contingency management and desipramine had more drug-free urines compared with the other three groups.

Psychosocial Interventions for Stimulant Use Disorder

- **Community-Reinforcement-Plus-Vouchers Approach**
  - Community reinforcement: individualized treatment, promotes lifestyle changes in key recovery areas – relationships, employment, developing social networks, mood regulation training
  - Voucher-based incentive: facilitate retention in treatment, promote initial abstinence from stimulants. Also known as contingency management interventions. Clients earn vouchers exchangeable for retail items contingent on stimulant-free urinalysis during first 12 wks of 24 wk treatment or thereafter.
- **Contingency Management**
  - The voucher system mentioned above is type of contingency management (aka contingency contracting). Well-known behavioral intervention designed to increase or decrease desired behaviors by providing immediate reinforcing or punishing consequences when the target behavior occurs. Has been used with considerable effectiveness in the treatment of many SUDs, very useful for treatment planning because it sets concrete short-term and long-term goals and emphasizes positive behavioral changes
- **Relapse Prevention**
  - Focus is on coping with craving, substance refusal and assertiveness skills, how seemingly irrelevant decisions can affect the probability of later substance use, general coping/problem solving skills, and how to apply strategies to prevent a full-blown relapse should an episode of substance use occur

Psychosocial Interventions for Stimulant Use Disorder

- **The Matrix Model**
  - Originally referred to as the neurobehavioral model. An outpatient treatment approach developed in the mid-1980s for treatment of cocaine/MA use disorders. Integrates treatment elements from relapse prevention, motivational interviewing, psychoeducation, family therapy, and 12-Step program involvement.
  - The basic elements: group sessions (early recovery skills, relapse prevention, family education, and social support) and 20 individual sessions, along with encouragement to participate in 12-Step activities, delivered over a 24-week intensive treatment period
- **Network Therapy**
  - Rationale: people can recover from SUD if they have a stable social network to support them in psychotherapeutic treatment. Clients receiving individual psychotherapy develop a network of stable, nonsubstance-using support persons, such as family, partners, and close friends.
- **Acupuncture**
- **Inpatient**
- **Long term residential**

Candidate Medications for Stimulant Use Disorder

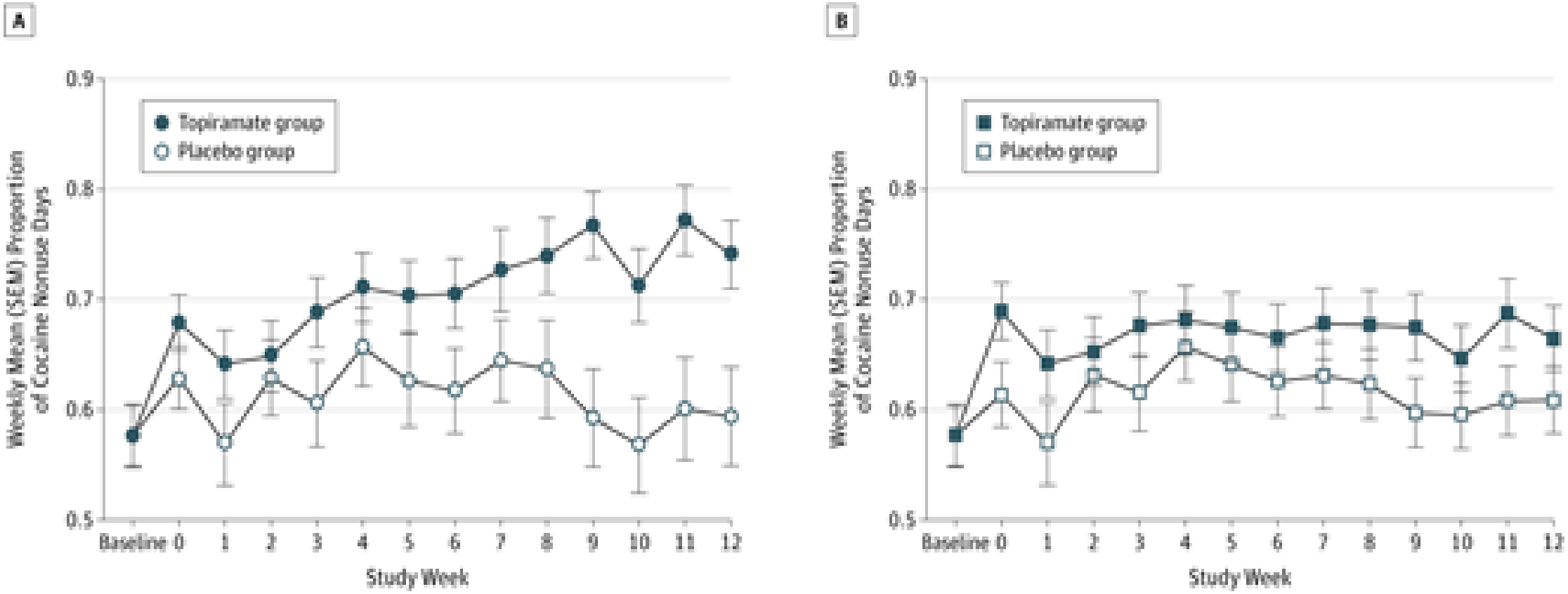
- There are no indicated medications for Stimulant Use Disorder
- No medications have been shown in randomized trials to be consistently efficacious for stimulant use disorders.
- Only psychosocial interventions have proven efficacy in reducing stimulant use in patients with stimulant use disorder, but these treatments alone are insufficient for many patients, prompting research into the neurobiology of stimulant use disorder and trials of several augmenting medications.
- After a review of the current literature and based on our experience, the following lays out a strategy for how we may approach people that are having abuse issues with methamphetamines, cocaine, rx stimulants.

Background – Methamphetamine Treatment

- Some similarities to cocaine use disorder
- Amongst the most difficult SUD to treat – Engagement and Retention
- Most data suggest psychosocial interventions most effective
- Twelve Step/ Rational Recovery (no empirically based data in meth use disorders)
- Motivational interviewing (data on success in MSM)
- Cognitive Behavioral Therapy – Caveat: Executive functioning deficits (less PFC/ACC activity) – Focused CBT/MI for MSM useful for sexual behavior and Meth
- Contingency Management
- Time abstinent
    - Lee and Rawson, Drug Alc Rev 2008: 27: 309-17 Cadet and Gold, Curr Psychiatry, 2017: 11: 15-20

Tx Candidates for Stimulant Use Disorder

- **No FDA approved agents for meth use disorder**
- Topiramate
- Buproprion - Eases negative mood symptoms of withdrawal/inhibits dopamine reuptake / caution with patients with seizure history
- Atomoxetine – study with people on Buprenorphine for OUD - Drug Alcohol Depend. 2018 Mar 10;186:130-137
- Guanfacine - alpha -1 antagonist that may affect impulse control
- Propranolol –Reduces anxiety during withdrawal; may blunt cocaine-induced euphoria and craving/reduces sensitivity to adrenaline
- Naltrexone
- N-Acetylcysteine (NAC)
- Disulfiram (linked to DBH genotype?), Mirtazapine (antagonizes alpha-2 adrenergic and serotonin 5-HT2 receptors)
- Gapapentin / Pregabalin - a cyclic analogue of GABA, acts by enhancing GABA synthesis and also by decreasing neuronal calcium influx via a specific subunit of voltage-dependent calcium channels. Probable placebo over 1800mg
- Modafinil -- Acts as a mild stimulant, countering energy depletion during withdrawal; blocks cocaine-induced euphoria/enhances glutamate transmission
- Inc Buprenorphine?, Agonist therapies (e.g. stimulants)
- Cocaine vaccine (experimental)
  - Dackis et al, Neuropsychopharmacology (2005) 30, 205–211 Johnson B et al., JAMA Psychiatry. 2013;70(12):1338-1346 Martell et al, 2009 Arch.Gen.Psychiatry 66,1116–1123; Kosten et al, 2014 Drug and Alcohol Dependence 140,42–47). ,
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2797110/
  - https://www.uptodate.com/contents/pharmacotherapy-for-stimulant-use-disorders-in-adults



Topiramate for the Treatment of Cocaine Addiction: A Randomized Clinical Trial JAMA Psychiatry. 2013;70(12):1338-1346. doi:10.1001/jamapsychiatry.2013.2295

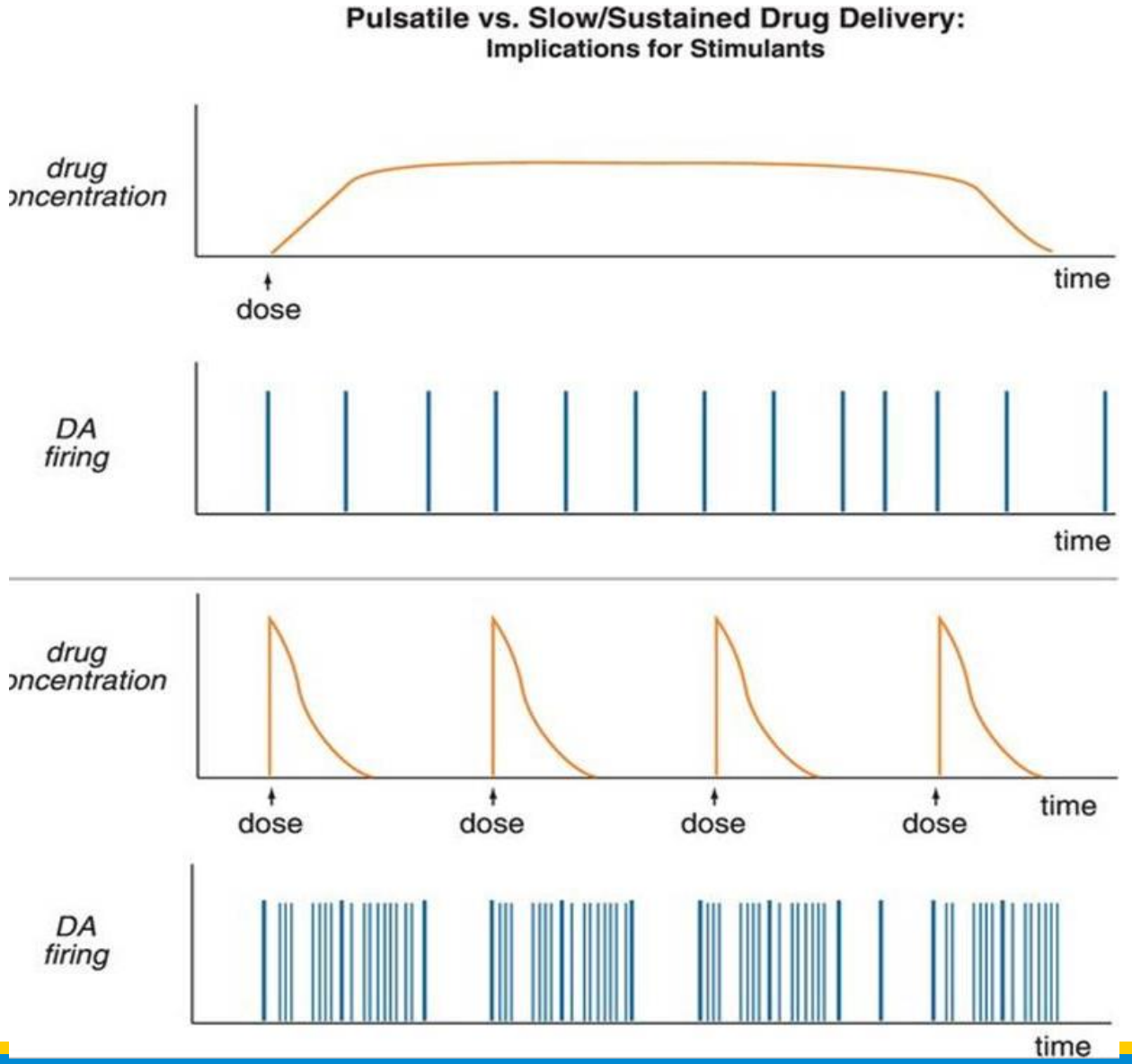
Evidence for stimulant replacement?

- "Researchers recognize the problems inherent to agonist replacement therapy (i.e., abuse and diversion potential). However, until a more acceptable and effective medication is available, there are few options available to clinicians to manage stimulant dependence. Extended-release formulations of agonist replacements (e.g., Concerta® or Dexedrine Spansule®) are available and should be considered until effective alternatives are identified, particularly because extended-release preparations are less likely to be misused…."
  - **Agonist Replacement for Stimulant Dependence: A Review of Clinical Research, Curr Pharm Des. 2013; 19(40): 7026–7035., William W. Stoops and Craig R. Rush**

- "As this literature evolves, strategies to manage the risk of prescribing controlled substances to patients with addictive disorders need to be tested and refined. Biases against using controlled substances as a treatment for cocaine dependence should be challenged, much in the way the use of agonist treatment transformed the treatment of opioid dependence despite initial resistance from the field….."
  - Psychostimulant treatment of cocaine dependence., Psychiatr Clin North Am. 2012 Jun;35(2):425-39. doi: 10.1016/j.psc.2012.03.012. Epub 2012 Apr 26.

When should we use a Stimulant? -Lessons from FRC-

- Important to identify the good candidate first
- Extended release formulas
- Adderrall last
- Stimulants are LAST RESORT, and if chosen, they need to be used only with:
  - Weekly patients
  - Contracted patients – up to provider to keep up to date
  - Other rx and psychosocial treatments have failed
  - Pt must be IV DEPENDENT on illicit stimulants – not for occasional misuse – exceptions can be made for the non-IV dependent user - carefully
  - Willingness to discontinue immediately if abusing the rx or not getting to goals with illicit stimulant use



When should we use a stimulant?
-Lessons from FRC-

- Always need to weigh risks vs benefits when prescribing a stimulant for stimulant abuse – we do not want to give patients these medicines if we are enabling or allowing for a continuation of Addictive behavior / High risk behavior
  - In other words, If someone is using methamphetamines IV and then begins to substitute Ritalin or Adderall from us to continue the same plan, this is obviously not a good treatment plan and the med should be discontinued.
  - If they are using the medicine in a way that leads to real progress with their stimulant abuse, then it may be continued. This decision is made on a week to week basis or even more frequently when needed.
  - It is up to the provider seeing the patient that day whether to continue these medicines. This risk-benefit assessment needs to be qualified in every plan that includes rewriting for these medicines.

When should we use a stimulant?
-Lessons from FRC-

- All patients that are receiving stimulants for stimulant use disorder should be recommended to behavioral counseling.
  - If not making progress with lowering or discontinuing illicit stimulant use while prescribing stimulants, medications may be contingent on behavioral participation, and should discontinue stimulants if suspecting diversion or abuse
  - Ideally, they are already in behavioral
- If starting a stimulant secondary to methamphetamine dependence, and then the patient gets a diagnosis of ADD? – **stimulants are still written weekly.**
  - This is a rule that needs to be followed by the FRC psych and non-psych provider alike. If that patient wants to get their Adderall from a private psychiatrist and get their rx monthly, that is fine, but if they are receiving their stimulant for ADD from us after a history of stimulant abuse, they are seen weekly for these medications.
  - Remember - atop their new ADD dx, they still have stimulant use disorder. We are stewarding a controlled substance with close follow up to make sure benefit outweighs risk – not only because off label, but because higher risk of the med in general

When should we use a stimulant?
-Lessons from FRC-

- Factors that should prompt caution with continuing to prescribe these medicines
  - Presence of Opioid or Alcohol Use Disorder, especially if unstable, whether on MAT or not
  - A benzodiazepine use disorder, especially if unstable
  - On benzodiazepines or other controlled substances either from FRC or other provider
  - Illicit findings on POC testing or in confirmation
  - Living situation – safety with meds? Homeless, sober living, etc.
  - IV or nasal abuse history with stimulants
  - Nonadherence to frequency of office visits or treatment plan in general
  - Little to no objective evidence of making progress with stopping illicit stimulants – POC testing / confirmations
  - Not dependent on stimulants

Stimulant Use Disorder - Overarching Message with Treatment

- Don’t always go to meds first
- Create a plan with when you would go to meds, but most of the evidence is with psychosocial interventions
- There are many meds we should always try before stimulants
- Lessons from FRC - Stimulants are LAST RESORT, and if chosen, they need to be used only with:
  - Weekly patients
  - Contracted patients – up to provider to keep up to date
  - Other rx and psychosocial treatments have failed
  - Pt must be DEPENDENT on illicit stimulants – not for occasional misuse
  - Willingness to discontinue immediately if abusing the rx or not getting to goals with illicit stimulant use

QUESTIONS / DISCUSSION

Webinars

See our website for previous presentations & resources as well as upcoming topics

https://www.practiceinnovationco.org/itmatttrs2/mat-forum/