County Touchpoints in Access to MAT for Justice Involved Populations

TRAINING MODULE FOUR

MAT MEDICATIONS: HOW THEY WORK, FOR WHOM, AND IMPLICATIONS FOR THEIR USE IN CRIMINAL JUSTICE SETTINGS

OVERVIEW

- This training module describes methadone, buprenorphine and naltrexone, which are the three medications approved by the FDA for treatment of OUD. Method of action, abuse potential, patients most appropriate for the medication, side effects, common myths, and considerations for use in jails and justice settings are addressed for each medication. Duration of treatment and how medication adjustments should be made to minimize the risk of overdose are also discussed.

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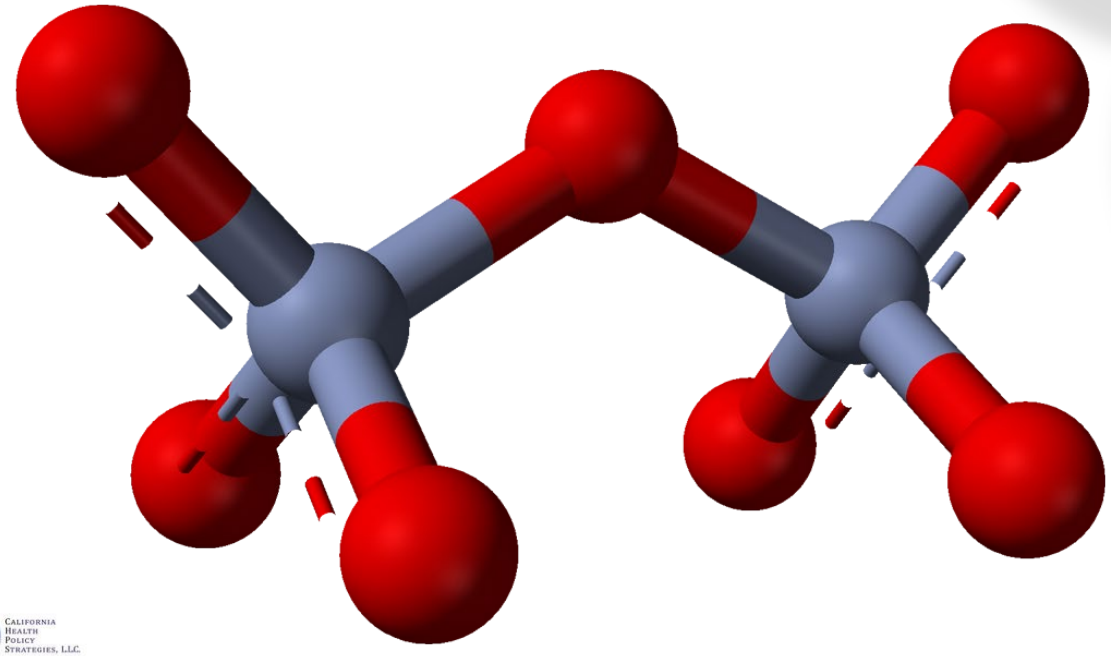
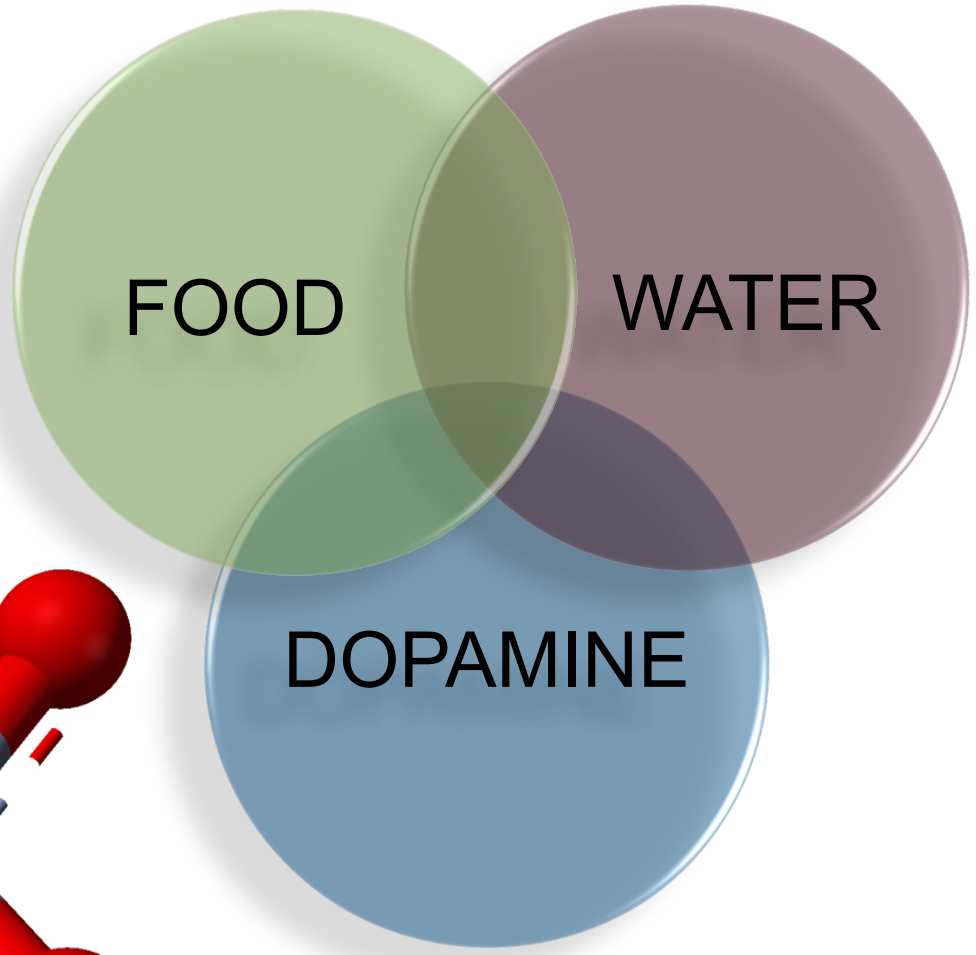
LEARNING OBJECTIVES

At the end of this training module, the participant can:

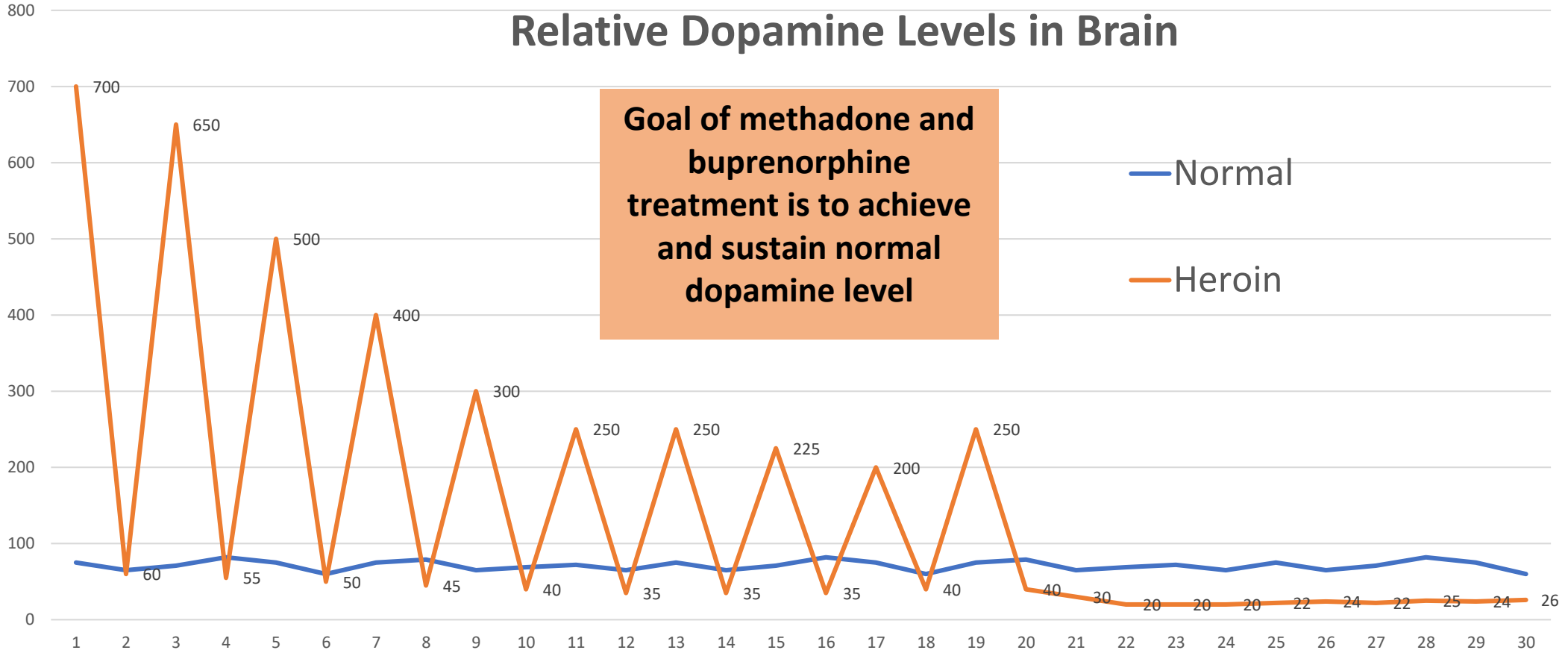
+ Describe the role of dopamine depletion in influencing behaviors.
+ Outline the benefits and outcomes of using medications to treat opioid use disorder.
+ Identify the three FDA-approved medications used for the treatment of opioid use order.
+ Articulate key differences between the three medications.

SURVIVAL





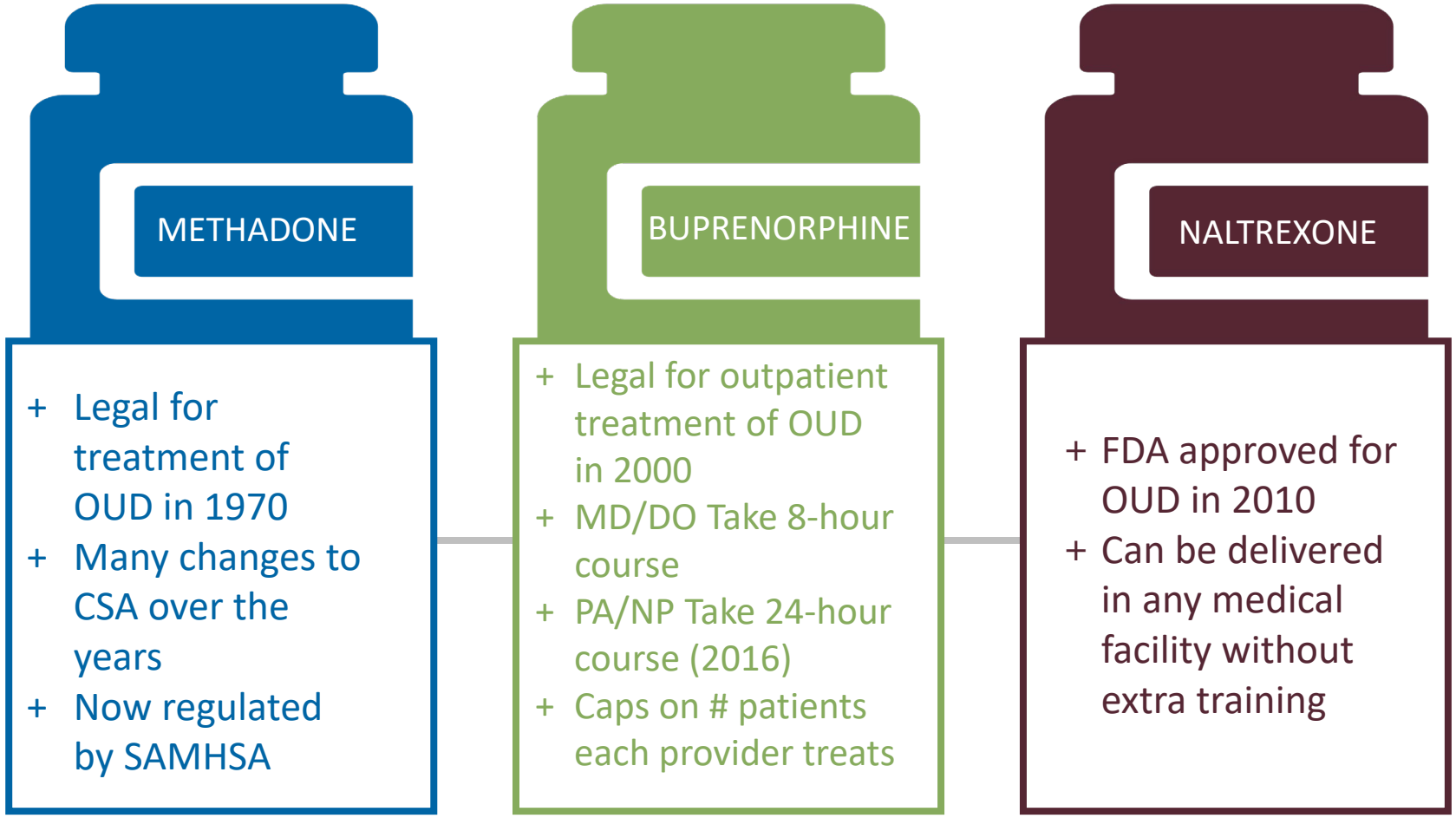
RELATIVE DOPAMINE LEVELS IN BRAIN



TWO PHYSIOLOGIC FACTORS IN DISCONTINUING OPIOIDS

+ We are addressing both **opioid withdrawal** and **dopamine depleted brain**
+ Opioid withdrawal
  - Muscle pain, dilated pupils, nausea, diarrhea, abdominal cramping, piloerection
  - Lasts 3 – 7 days
+ Dopamine depletion
  - Reward/motivation pathway
  - Persists for months after people stop using

MEDICATION-ASSISTED TREATMENT (MAT) INTRODUCTION



MAT FOR OPIOID USE DISORDER

METHADONE
full agonist
activates opioid receptors which eliminates craving for other opioids

BUPRENORPHINE
partial agonist
activates opioid receptors in the brain, but to a much lesser degree, which reduces craving for other opioids

NALTREXONE
antagonist
blocks opioid receptor without activating it which eliminates opioid effect if opioids are taken

If the "high" from heroin is compared to a car accelerator…

Full Agonist = Full acceleration is possible. Dose prescribed keeps patient at or under the "speed limit" (normal dopamine level)

Partial Agonist = Acceleration is only possible up the speed limit. Cannot go faster.

Antagonist = Box build around accelerator; it cannot be used.

Comparing MAT Medications to a Light with a Dimmer Switch	
Methadone	The further the dimmer is turned up, the brighter the light.
Buprenorphine	The light shines brighter as the dimmer is turned up, but only to a point. After that point, no further brightness occurs even when the switch is turned up further.
Naltrexone	The light does not turn on, no matter what the switch does

Comparing MAT Medications to a Car Accelerator	
Methadone	Presses the accelerator indefinitely; the more you use, the faster the car goes
Buprenorphine	Presses the accelerator but only to a set point. After that point, using more does NOT make the car go faster
Naltrexone	Places a box over the accelerator. The car will not accelerate no matter how much opioid is added.

METHADONE
FULL AGONIST

WHO IS APPROPRIATE FOR METHADONE?

+ Patients with greater than one year of OUD
+ Patients with history of injecting opioids
+ Patients with more severe OUD
+ Patients who have failed other MAT for OUD (buprenorphine or naltrexone)
+ Patients who can manage daily visit to methadone clinic

METHADONE - REGULATIONS

+ Delivered via observed dosing through licensed OTP/NTP
  - Jails can be licensed OTPs (ex. Alameda County)
+ DEA requires daily dosing at OTP, after stable for 6 weeks can proceed to increasing take home doses
+ Very high level of federal and state regulations Required counseling and full treatment planning
+ Regular and random drug screening required
+ Any provider authorized to prescribe controlled substances can prescribe methadone for treatment of pain

METHADONE OUTCOMES

The most studied of the three medications

Effectiveness (retention in treatment without relapse) ranges between 60 and 80%

Possibly due to combination of high intensity treatment and medication

Still standard of care for patients with Severe Opioid Use Disorder

RETENTION IN METHADONE TREATMENT IS ASSOCIATED WITH:

- ☑ Reduction in the use of illicit drugs
- ☑ Reduction in criminal activity
- ☑ Reduction in needle sharing
- ☑ Reduction in HIV infection rates and transmission
- ☑ Cost-effectiveness
- ☑ Reduction in commercial sex work
- ☑ Reduction in the number of reports of multiple sex partners
- ☑ Improvements in social health and productivity
- ☑ Improvements in health conditions
- ☑ Retention in addiction treatment
- ☑ Reduction in suicide
- ☑ Reduction in lethal overdose

METHADONE – OTHER ISSUES

+ Methadone has considerable stigma in many communities. Often from prior history with a "bad" clinic.
  - Visit your clinic(s)
  - Explore options for safe access to methadone in jails
  - Talk to your peers on this project
+ Options for OTPs to provide methadone to a jail.
  - Driving detainees to a clinic every day
  - Driving detainees to clinic & getting take home doses
  - NTP bring meds to jail
  - Internal NTP (staffed by contracted NTP staff or internal staff)

METHADONE

- Typical effective dose range 80-120 mg
  - Not therapeutic until at least 60 mg per day
  - Lapse in dose of > 24 hours will create withdrawal
- Jails that forcibly withdraw people from methadone are being sued and losing (ADA violations)
- 50% of people who are forcibly withdrawn from methadone do NOT return to treatment

METHADONE

- Patients can transitioned from methadone to buprenorphine, but this is complex & requires expertise.
- Pregnant women receiving MAT MUST be maintained in order to prevent risk to the fetus & pregnancy.
- Pregnant women can be transitioned from one agent to another, but there is no data to support this.

BUPRENORPHINE
PARTIAL AGONIST

BUPRENORPHINE BASICS

+ Partial agonist: increasing dose does not result in “getting high”, only nausea/vomiting.
+ Much harder to overdose on it.
+ Relief from cravings: that’s why it is so desirable and so diverted.
+ Almost all diverted buprenorphine is being used to prevent withdrawal.
+ Only “opioid naïve” people get a high from it.
+ Can be used for withdrawal management, but terminating its use after withdrawal is NOT evidence-based; increases risk of relapse & death.
+ Most common side effects: headache, nausea, insomnia.

BUPRENORPHINE FORMULATIONS

Comes in multiple forms

+ Some forms have naloxone added to prevent high if injected. The naloxone is not absorbed if medication is used under tongue
+ Oral (Sublingual/under the tongue, not effective if swallowed or regurgitated)
  - Sublingual tablet (Subutex, Suboxone): Slow dissolving, but can be crushed to speed up dissolving
  - Sublingual film (Suboxone, Zubsolv)
  - Buccal film (Bunavail)
+ Implantable rod
+ Injection (Sublocade)
  - Need to start on sublingual
  - Lasts 28 days
  - Very limited diversion potential
  - Gradual withdrawal if discontinued

BUPRENORPHINE PROPERTIES

+ Has ceiling on its effect
  - Dosing above ~32 mg do not cause more euphoria
  - Doses above 24-32 mg no more effective for treatment of OUD
+ Typical dose 8-24 mg.
  - Dosing <8 mg is NOT evidence based & rarely effective. Does not provide sufficient relief from cravings or withdrawal sxs.
+ Other opioids are not as effective when buprenorphine is present. Buprenorphine binds strongly to receptors & can't be "kicked off." Buprenorphine is a deterrent to other opioid use, more so than methadone.

BUPRENORPHINE INDUCTION

- Starting buprenorphine when opioid receptors are saturated causes precipitated withdrawal
- Start buprenorphine when patient is in moderate withdrawal, then buprenorphine binds receptors & relieves withdrawal

BUPRENORPHINE – WHO CAN PRESCRIBE FOR OUD

- MD/DO: 8 hour course to qualify for DATA 2000 X Waiver
- PA/NP/CNM: 24 hour course
- 30 patients at a time 1st year, then can apply to go to 100
- Community and jail providers in California are finding demand exceeds prescribing limits
- Physicians can be allowed up to 275 patients at a time under certain circumstances
- Any provider authorized to prescribe controlled substances can prescribe buprenorphine for pain

BUPRENORPHINE OUTCOMES

OUTCOMES AT 1 YEAR RANGE FROM 45% TO 65% EFFECTIVENESS USING THE SUBLINGUAL MEDICATION

HIGH DEGREE OF VARIABILITY IN THE DELIVERY MODELS AND PATIENT SEVERITY

BUPRENORPHINE IN JAILS AND PRISONS

+ Potential for diversion is high in community
+ Urine screens important to verify ingestion
  - Test for buprenorphine + norbuprenorphine
+ Injectable form is expensive ($1500 per dose) but several advantages
  - Extremely low diversion potential
  - Client does not have to “choose” treatment every day

DURATION OF TREATMENT: METHADONE AND BUPRENORPHINE

+ Depends on individual patient & psychosocial changes made
+ Neuroscience indicates 2-3 year course is minimum
+ BUT… many patients want to be off MAT or to only use it briefly
  - Discuss evidence that MAT is most effective treatment for OUD, but respect autonomy
+ Some brains can recover the ability to produce dopamine, not all
+ Slowly wean from MAT without stimulating withdrawal which creates craving and significantly increases risk of relapse
+ OUD relapse after being on MAT is exceptionally deadly
+ **Decisions about dosing and tapering of MAT are clinical and should not be dictated by the criminal justice system**

NALTREXONE
ANTAGONIST

WHO IS APPROPRIATE FOR NALTREXONE?

+ Patients with a high degree of motivation (high dopamine)
+ Patients with previous poor outcomes with buprenorphine and methadone
+ Patients, especially in criminal justice system, with history of OUD and Alcohol Use Disorder

NALTREXONE

+ Does not address underlying issue of dopamine but does decrease cravings over time
+ No diversion potential
+ More widespread acceptance in criminal justice community
+ Can be very useful after discontinuation of methadone or buprenorphine, as a sort of “insurance policy”

NALTREXONE IN JAILS AND PRISONS

+ Conduct drug screening before starting and confirm verbally with patient; starting with opioids in system creates withdrawal
+ Check liver enzymes, can't start if severe liver disease
+ Can convert from injectable to oral (oral is cheaper)
+ Injectable at release
    - As compliance is not an issue with injectable
    - Evidence for OUD is for injectable

NALTREXONE CAVEATS

+ Starting naltrexone can be difficult
  - Naltrexone binds more tightly to receptors than opioids
  - Naltrexone displaces opioids from receptor
  - MUST do toxicology testing & confirm opioid free before starting → induced withdrawal
  - Need to be off all opioids for 7-10 days (really 5 half lives)
+ Some stigma against methadone & buprenorphine can result in preference for naltrexone even when it is not the most appropriate treatment

NALTREXONE OUTCOMES

+ Least studied medication for OUD, because newest
+ Retention & efficacy better with injectable vs. oral
+ Oral does not carry FDA indication for OUD, but jails have directly observed treatment
+ Injectable much more expensive
+ Need to weigh pros and cons of each form
+ Mixed results in studies, due to difficulty starting naltrexone (need to be 7-10 day opioid-free to begin)
+ Good data in Criminal Justice populations

URINE TOXICOLOGY SCREENS

+ What does your tox screen detect?
  - Most do not detect Methadone, buprenorphine or norbuprenorphine
+ Some tox screens do not have validity testing
  - Is it urine?
  - Is it the right person's urine?
+ Tox Screens conducted to monitor chronic disease
+ What does your doctor do when your diabetes lab work is not improving?

WHAT TO DO WHEN PEOPLE ON MAT TEST POSITIVE FOR OTHER SUBSTANCES

+ **MAT is being used for OUD, not other substances**
  - Patients frequently use multiple substances
  - Multiple studies show treatment of OUD with MAT reduces or eliminates other substance use over time
  - Greatest concern is use of benzodiazepines with MAT Recommendation: Do **NOT** stop MAT because of benzo use
+ **Relapse is expected in the chronic disease of addiction**

WHAT TO DO WHEN PEOPLE ON MAT TEST POSITIVE FOR OPIOIDS

+ Consider inadequate dose of MAT
+ May be diverting MAT and using other drugs
+ May need to switch to different MAT drug
+ May increase psychosocial treatments
+ Relapse is expected in the chronic disease of addiction

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https://addictionfreeca.org/California-MAT-Expansion-Project/County-Touchpoints-in-Access-to-MAT-for-Justice-Involved-Populations

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