The Pros and Cons of MAT

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Arthur Robin Williams, MD, MBE, discloses:

- Receives grant funding from NIDA and compensation as a consultant to:
  - American Academy of Addiction Psychiatry (AAAP)
  - National Center on Addiction and Substance Abuse (CASA Columbia)
Educational Objectives

At the conclusion of this activity participants should be able to:

• Identify 3 types of MAT for the treatment of Opioid Use Disorders (OUDs)

• Identify pros and cons of each modality

• Design treatment plans with objective monitoring of sobriety for each modality
Outline

- Overview of MAT
- Case Study
- Addiction: Neurochemical dependence
- 3 MAT: Methadone, Buprenorphine, Naltrexone
- Pros and cons of MAT modalities
- Objective monitoring and diversion control for MAT
- Review of case questions
Overview: Medication Assisted Treatment

• “MAT” is as a term for using medications to treat opioid use disorders (OUDs)
• MAT is provided in addition to intensive psychosocial and behavioral therapy
• MAT for OUDs refers to the use of methadone, buprenorphine, or naltrexone
• There is no evidence for a pre-determined length of treatment for MAT
  ▪ Longer Retention = Better Outcomes
Case Study

Marcus is a 26 year old male facing a five-year felony charge. He has been injecting 6–8 bags of heroin a day for the past 6 months after regularly using 100–150mg of oxycodone a day for the prior 5 years. He has never been in drug treatment, but one time last year when he didn’t have enough money for oxycodone, he tried “bup” from a friend and it made him “sick.”
Luckily, Marcus has managed to keep a construction job where he works 6am–3pm most days and lives with his mother. He says that he hates using heroin, but every time he tries to stop he gets so sick with nausea, diarrhea, and muscle aches that he cannot go to work. He’s never made it more than 24 hours without using. Aside from his drug addiction, Marcus denies other mood, anxiety, or trauma disorder symptoms.
What treatment/s are indicated to treat Marcus’ Opioid Use Disorder (OUD)?

Which MAT modality would be the best fit?
  • What if he also has chronic pain?

For how long does Marcus require treatment?

What are the pros and cons of each modality?

How should monitoring differ for each modality?
Background: Addiction Neurochemistry

- Opioids activate opioid receptors in the brain
- Without opioids, unstable receptors lead to:
  - Withdrawal symptoms
  - Intense cravings
- Receptors are stabilized with MAT medications
- Patients on MAT:
  - Experience fewer and less intense cravings
  - Use drugs at much lower rates
  - Have decreased mortality
“Opioids” include synthetic pain pills and heroin

“Opiates” are natural opioids like opium or morphine

Unlike other addictive drugs, opioids carry greater risks, such as overdose death

Injection drug use adds risks such as infectious disease (HIV, Hepatitis C) and injuries
Background: MAT for OUDs

- MAT is the **gold standard for OUD treatment**:
  - Reduces drug use
  - Protects against overdoses
  - Prevents injection behaviors
  - Reduces criminal behavior
Background: MAT for OUDs

- MAT includes 3 modalities:
  - Methadone (schedule II)
  - Buprenorphine (schedule III)
  - Naltrexone (not controlled)

- Each modality should be provided in addition to intensive psychosocial and behavioral therapy

- Patients benefit from MAT for >1–2 years of sobriety before attempting to taper, with dosing reassessments every 6 months
What treatment/s are indicated to treat Marcus’ Opioid Use Disorder (OUD)?

- Marcus needs ongoing treatment with MAT
- He could benefit from any of the 3 modalities
- MAT should be in addition to intensive psychosocial/behavioral approaches such as:
  - Group therapy
  - Individual psychotherapy (MI, RPT, CRA, CBT)
  - NA/AA meetings and/or SMART Recovery
Each MAT modality requires a different induction process for stabilizing the patient.

Each modality has different logistical and financial requirements.

Each modality has different pros and cons.

Patients may respond better to one modality.

As a result, all three options should be available to every patient.
Methadone (approved 1972)

- Implemented in 1960s; President Nixon heavily funded methadone to treat Vietnam War veterans
- Highly restricted and provided through licensed programs that initially require daily attendance
- Methadone fully activates the opioid receptor but lasts for 24 hours, smoothing out highs and lows
- Methadone maintains opioid tolerance, lowering relapse and overdose rates if patients use opioids
  - Flexible, higher doses (>60mg) improve results

Fullerton et al 2014
Methadone: Pros and Cons

Pros
- Easy induction from active use
- Lower medication costs but program fees vary
- Best medication for retaining patients in treatment at 12 months (~80%)
- Lowers drug use and criminal activity
- Treatment of choice for pregnant women

Friedman et al 1994; Lund et al 2013
Methadone: Pros and Cons

**Cons**
- Requires early morning daily dosing
- Many states and rural areas have limited access
- Programs are targeted by drug dealers
- Patients often combine benzodiazepines and other medications to get “high” on a regular dose
  - i.e. patients “nodding out”
  - Can lead to overdose (esp. first 2 weeks)
- Can cause medical complications (arrhythmias)
- Patients face more stigma
Programs are heavily regulated at federal level
Often have additional state-level restrictions
Patients are directly observed taking doses
Patients are frequently drug tested in the program
Patients are only allowed “take home doses” once stable in recovery with negative urines
Often program physicians refuse to prescribe benzodiazepines but patients find them anyway
Case

Which MAT modality would be the best fit? What if he also has chronic pain?

- Marcus’ work schedule would complicate attending a methadone program every morning
- Methadone is cheaper and typically more widely available than other MAT options
- Methadone helps pain but is dosed only once a day therefore has limited pain control
Buprenorphine (approved 2002)

- Used since 1970s for pain
- Developed for addiction treatment more recently
- DATA 2000 Act allows individual physicians to prescribe via an outpatient office
- Physicians must complete 8-hour training and get “waivered” with a DEA “X number” to prescribe
- Can be prescribed with multiple refills
- Often sold as a combo product with naloxone [Suboxone] to deter abuse (i.e. injection)
**Pros**
- Greatly reduces overdose risk
- Very good pain control when dosed every 6 hours
- Can be prescribed like any other medication
- Often monitored in prescription drug monitoring programs (PMPs)
- Good for pregnancy, better newborn outcomes?
- Somewhat less stigma (remains controversial)
Buprenorphine: Pros and Cons

- Buprenorphine may produce better outcomes than methadone for pregnant women and newborns:

Lund, et al. 2013
Cons

- Patients must be in withdrawal to take first dose
  - Can precipitate withdrawal if taken too soon
  - As a result, some patients struggle to start
- Physicians need DEA waiver, few prescribe it
- Has street value and can be sold/diverted
- Patients can intentionally space out doses and use opioids in between
- Some people inject it (despite abuse deterrence)
Buprenorphine: Monitoring

- Check prescription drug monitoring program (PMP)!
- Requires routine urine testing
  - Urine should be positive for buprenorphine (if negative, suggests diversion)
  - Urine should be negative for opioids and benzodiazepines
- Aberrant behaviors must be monitored including:
  - “Losing” prescriptions and/or running out early
    - May need dose increase
    - Prescribe for shorter intervals (i.e. weekly)
  - Requesting dose > 16–24mg (suggests diversion)
    - Use in-office medication counts
Case

Which MAT modality would be the best fit? What if he also has chronic pain?

- Buprenorphine may be the best fit for Marcus depending on local availability

- With pain, buprenorphine (dosed every 6–8 hours) would be preferred.
  - Use smaller doses more frequently to help pain
Naltrexone binds tightly to opioid receptors, pushing off all other opioids (whether used before or after taking naltrexone)

Available as a daily pill or as a monthly injection, “the blocker shot,” called xr-naltrexone (Vivitrol)

Completely protects from overdose for 4 weeks

Reduces cravings due to activity at opioid receptor

Does not cause physical dependence and patients lose their opioid tolerance while taking
Monthly injection, “Vivitrol,” is an extended release form of naltrexone enhancing outcomes

Krupitsky, et al. 2011
XR-Naltrexone: Pros and Cons

- **Pros**
  - Patients no longer fear going into withdrawal
  - Blocks opioid use of any kind
    - ~50% of patients “test” the blockade initially and quickly extinguish use
  - Can be given as monthly injection (Vivitrol) to ensure adherence and block relapse
    - Injection has 2x retention as oral treatment
  - Less stigma
XR–Naltrexone: Pros and Cons

Cons

- Most difficult induction, requires 3–10 days of abstinence: Patients must detox, often drop out
- Hard to find providers
- Many insurers don’t reimburse (costs $1,500/mo)
- Lowers tolerance: if patients stop medication they could overdose if relapse
- No pain relief and should be stopped for surgery
XR–Naltrexone: Monitoring

- Least likelihood of abuse/diversion (no street value)
- Injection is directly administered by clinician
- Frequent urine testing remains vital to treatment
- About half of patients “test” blockade initially; can be therapeutic experience, extinguishing behavior
- Patients with protracted withdrawal may require additional treatment
  - Insomnia common for 1–2 months
  - Anxiety and gastrointestinal distress also common
Which MAT modality would be the best fit? What if he also has chronic pain?

- XR–Naltrexone is also a good choice for Marcus
- However it is hard to find
- Marcus would need to stop using for a week before he could receive the injection
- With pain, he would need additional medications since naltrexone cannot treat pain
Case Approach

For how long does Marcus require treatment?

- There have never been studies showing benefit from discontinuing MAT
- In general, longer retention = better outcomes
- A minimum of 12 months improves results
Tapering

- Typically patients with continuous sobriety for 1–2+ years have the best outcomes
  - Treatment <6 months has worse outcomes

- There is no evidence to support stopping MAT
  - 95% of methadone patients do not achieve abstinence when attempting to taper off (Nosyk, et al. 2013)
  - Over 90% of buprenorphine patients relapse within 8 weeks of taper completion (Weiss, et al. 2011)

- Successful patients are commonly maintained on
  - Methadone for 24+ months
  - Buprenorphine for 18+ months
Clinical considerations before tapering:
- Treatment history (i.e. prior relapse after taper)
- Addiction history (length/severity)
- Family history
- Resilience and personality traits
- Life stressors, loss, and transitions
- Patient motivations for tapering

Alford et al., 2011; Stimmel et al., 1977
Tapering MAT

- Methadone and buprenorphine
  - Better results with longer taper (over months)
  - Methadone programs often “blind” the dose
  - May need new medications for symptom relief
  - Many patients relapse during this process
  - Should only be attempted when clinically indicated (not for insurance or regulation)
  - Should not occur during major stressors

- XR-Naltrexone does NOT require tapering
  - Patients become “unblocked” after 4 weeks
Tapering MAT

- Overall: longer, slower tapers work better
  - Tapering some patients from buprenorphine may be more difficult and may require a longer period of time than tapering from methadone
  - Consider following a taper with xr-naltrexone for a year or longer

(Weiss et al., 2011)
Returning to Case Questions

- What treatment/s are indicated to treat Marcus’ Opioid Use Disorder (OUD)?
- Which MAT modality would be the best fit?
  - What if he also has chronic pain?
- For how long does Marcus require treatment?
- *What are the pros and cons of each modality?*
- *How should Marcus’ treatment plan differ for each modality?*
What are the pros and cons of each modality?

- **Methadone:** Difficult to attend but less expensive
  - Hard to find in rural areas

- **Buprenorphine:** Can take at home/on work site
  - Risk of using between doses

- **XR–Naltrexone:** Ensures adherence, blocks relapse
  - Difficult to find a provider
  - No pain relief
How should Marcus’ treatment plan differ for each modality?

- As Marcus would be newly in recovery, observed dosing with ongoing regular urine testing is key.

- Case manager could directly observe daily buprenorphine dosing at office or dose at treatment program daily:
  - Urine tests should confirm presence of buprenorphine and absence of other drugs.
Frequently Asked Questions

- Is outpatient treatment usually provided at the methadone clinic?
- If counseling provided at the methadone clinic, is the counseling usually evidence based?
- Why is methadone the treatment of choice for OUD females?
- How is detoxing from methadone different than detoxing from heroin? How is it done?
- How does the combination of opioids and benzodiazepines affect the user?
References


References


About this Project

For More Information:
Website: www.ndcrc.org

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