OPIOID WITHDRAWAL MANAGEMENT FOR PATIENTS IN LABOR, DELIVERY, RECOVERY, AND POSTPARTUM (LDRP) UNITS

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CONFLICTS OF INTEREST

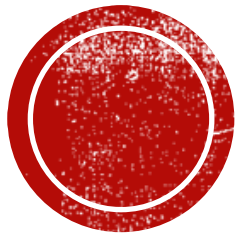
- None

OBJECTIVES

- Understand the pharmacology of opioids
- Explain the mechanism of action of opioid maintenance therapy options
- Identify potential pitfalls in the perinatal management of patients dependent on opioids

OUTLINE

- Introduction
- Withdrawal
- Intrapartum Management
- Postpartum Management
- Breastfeeding
- Discharge Management
- Summary



INTRODUCTION

DEFINITIONS

OpiATES

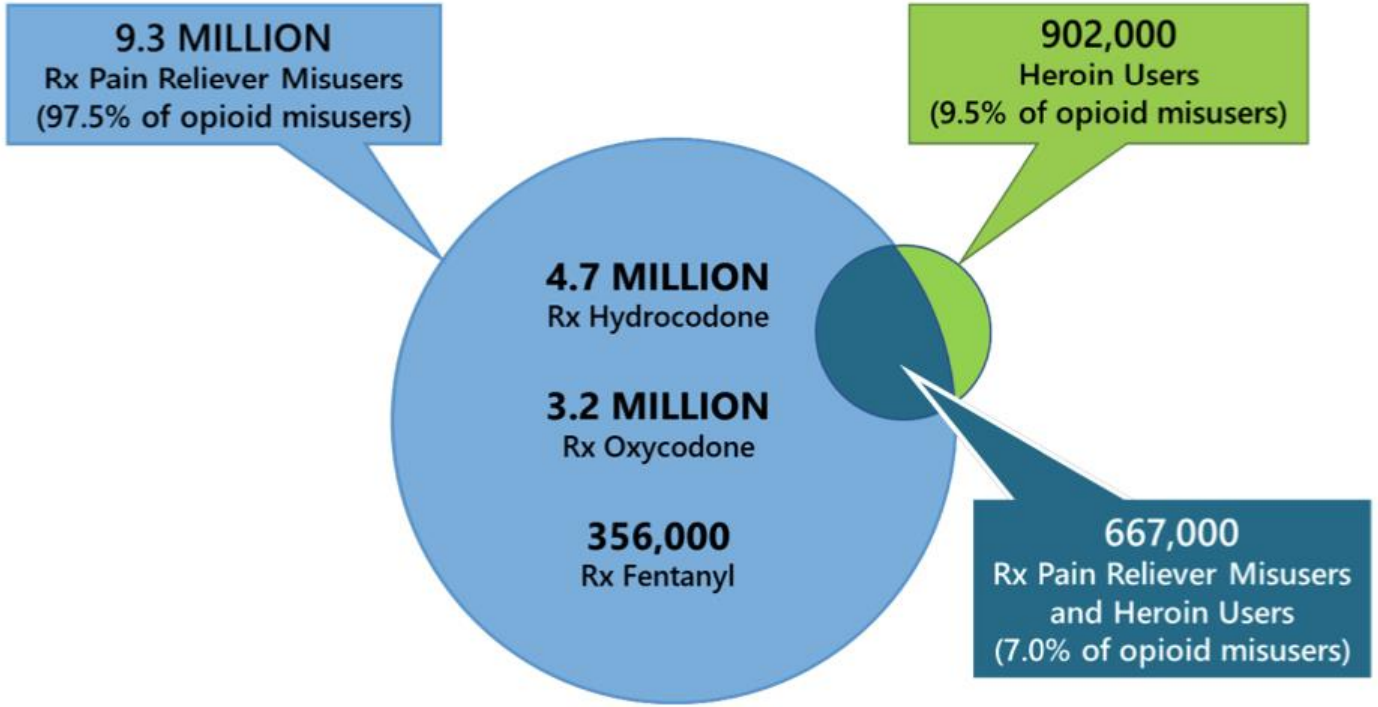
- Substances that can be extracted from the poppy plant
  - Heroin
  - Morphine
  - Codeine

OpiOIDS

- Any substance that binds to opioid receptors in the brain
  - Includes the opiates, as well as synthetically-made compounds such as:
    - Oxycodone
    - Hydrocodone
    - Fentanyl
    - Dilaudid
    - Tramodol
    - Methadone
    - Buprenorphine

OPIOID MISUSE: UNITED STATES

- Estimated that 9.5 Million people misuse opioids
  - 3.4% of the total population
- ~90% of misused opioids are prescription medications



MEDICATION-ASSISTED TREATMENT (MAT)

- AKA
  - iMAT (integrated MAT)
  - Opioid agonist pharmacotherapy (OAP)
  - Opioid maintenance therapy (OMT)
  - Medication for opioid use disorder (MOUD)

MEDICATION-ASSISTED TREATMENT (MAT)

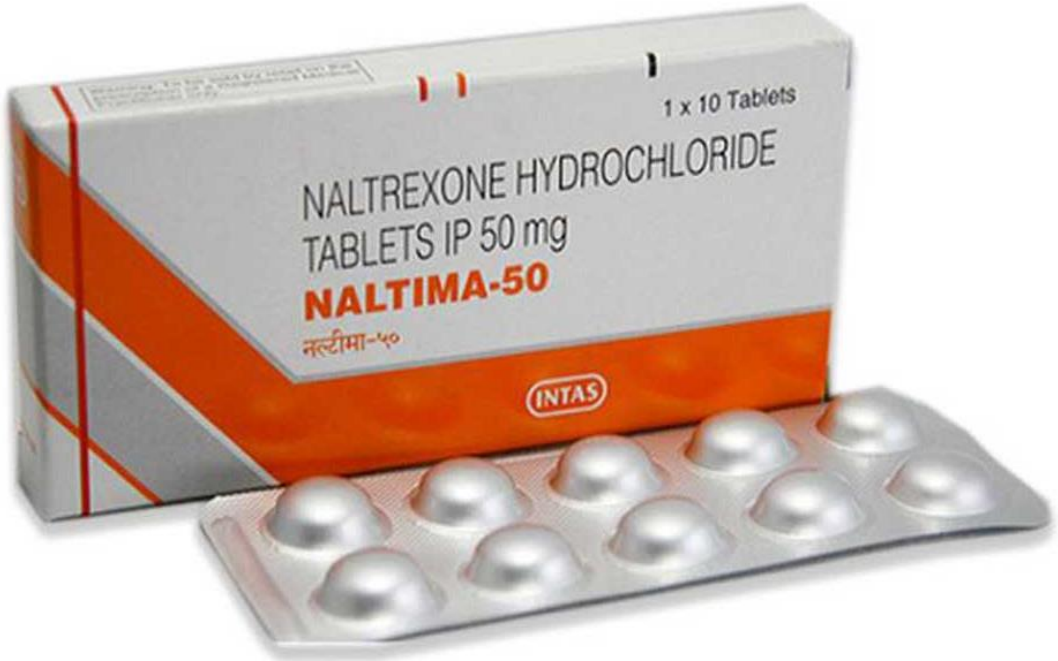
- Goals of treatment:
  1. Prevent withdrawal symptoms
  2. Provide a steady, stable dose
     - Avoiding use/withdrawal cycles - better for both mother and fetus
  3. Avoid issues that come with illicit use
     - Tainted substances, contaminated needles, crimes to afford them
  4. Avoid relapse
  5. Better prenatal care
  6. Stable social situation
  7. Adequate treatment for neonatal withdrawal (NAS/NOWS)

TREATMENT OPTIONS

- Detoxification
  - Not recommended during pregnancy due to high rates of relapse
    - 59-90% relapse rate in the literature

TREATMENT OPTIONS PART 2

- Naltrexone (Rexia, Vivitrol)
  - Full opioid antagonist (stay tuned)
  - Can be taken as a daily pill (doesn't work well) or a long-acting injection (preferred)
  - Data in pregnancy are limited



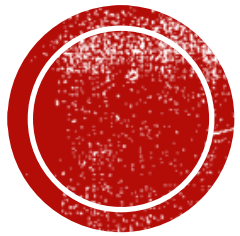
TREATMENT OPTIONS PART 3

- Methadone
  - Very long-acting synthetic opioid
  - Full opioid agonist (stay tuned)
  - Requires daily dosing from a methadone clinic
  - Can cause arrhythmias
    - At one point this was the most dangerous prescription drug in America

TREATMENT OPTIONS PART 4

- Buprenorphine
  - Comes as Subutex (buprenorphine only) or Suboxone (buprenorphine + naloxone)
    - (Naloxone is a full opioid antagonist included to deter misuse)
    - Traditionally, Suboxone is used for everyone except pregnant women and Subutex is used during pregnancy
      - No real reason for this except tradition!
  - Daily dosing, but often prescribed in 1- to 4-wk supplies
  - Long-acting inectible form = sublocade
    - Limited data but promising
  - Partial opioid agonist (stay tuned)
    - Treats symptoms of withdrawal but does not cause euphoria

OPIOID RECEPTOR



WITHDRAWAL

WITHDRAWAL

- Occurs when the opioid receptors are not stimulated in the way the body has become accustomed to them being stimulated
- Opioid withdrawal is typically not life-threatening
  - But makes people feel absolutely miserable
- It won't kill you, but it may make you wish you were dead

SYMPTOMS OF OPIOID WITHDRAWAL

- Abdominal cramping
- Anxiety
- Body aches
- Dilated pupils
- Goose bumps, chills
- Insomnia
- Irritability
- Muscle pain/cramps/twitching
- Nausea/Vomiting/Diarrhea
- Restlessness
- Rhinorrhea (runny nose)
- Sweating
- Tachycardia
- Tremor
- Watery eyes
- Restlessness

WITHDRAWAL

- Buprenorphine has a stronger affinity for the opioid receptor than most opioids
  - It will displace other opioids from the receptor and precipitate a withdrawal
  - Or not let them bind
  - Exception = fentanyl
- In order to start a patient on buprenorphine, we have to wait until they are in moderate withdrawal, and only then can we safely start buprenorphine
  - During pregnancy this is typically accomplished in the hospital

COWS Clinical Opiate Withdrawal Scale

Wesson & Ling, J Psychoactive Drugs. 2003 Apr-Jun;35(2):253-9.

Resting Pulse Rate: _____beats/minute *Measured after patient is sitting or lying for one minute* 0 Pulse rate 80 or below 1 Pulse rate 81-100 2 Pulse rate 101-120 4 Pulse rate greater than 120	GI Upset: *over last 1/2 hour* 0 No GI symptoms 1 Stomach cramps 2 Nausea or loose stool 3 Vomiting or diarrhea 5 Multiple episodes of diarrhea or vomiting
Sweating: *over past 1/2 hour not accounted for by room temperature or patient activity.* 0 No report of chills or flushing 1 Subjective report of chills or flushing 2 Flushed or observable moistness on face 3 Beads of sweat *on* brow or face 4 Sweat streaming off face	Tremor *observation of outstretched hands* 0 No tremor 1 Tremor can be felt, but not observed 2 Slight tremor observable 4 Gross tremor or muscle twitching
Restlessness *Observation during assessment* 0 Able to sit still 1 Reports difficulty sifting still, but is able to do so 3 Frequent shifting or extraneous movements of legs/arms 5 Unable to sit still for more than a few seconds	Yawning *Observation during assessment* 0 No yawning 1 Yawning once or twice during assessment 2 Yawning three or more times during assessment 4 Yawning several times/minute
Pupil size 0 Pupils pinned or normal size for room light 1 Pupils possibly larger than normal for room light 2 Pupils moderately dilated 5 Pupils so dilated that only the rim of the iris is visible	Anxiety or irritability 0 None 1 Patient reports increasing irritability or anxiousness 2 Patient obviously irritable anxious 4 Patient so irritable or anxious that participation in the assessment is difficult
Bone or Joint aches *If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored* 0 Not present 1 Mild diffuse discomfort 2 Patient reports severe diffuse aching of joints/ muscles 4 Patient is rubbing joints or muscles and is unable to sit still because of discomfort	Gooseflesh skin 0 Skin is smooth 3 Piloerrection of skin can be felt or hairs standing up on arms 5 Prominent piloerrection
Runny nose or tearing *Not accounted for by cold symptoms or allergies* 0 Not present 1 Nasal stuffiness or unusually moist eyes 2 Nose running or tearing 4 Nose constantly running or tears streaming down cheeks	Total Score _____ The total score is the sum of all 11 items Initials of person completing Assessment:_____

Score: 5-12 mild; 13-24 moderate; 25-36 moderately severe; more than 36 = severe withdrawal

COWS SCORE

- Be careful using this term within earshot of the patient – it can be easily misinterpreted
- I typically explain the scoring system beforehand so she won't be offended if she hears it

TIMING OF WITHDRAWAL

- The timing of withdrawal will depend on the half-life of the substance being used
- We need to anticipate a withdrawal as best we can, and treat beforehand to prevent it
- Heroin:
  - Half-life = ~30 min
  - BUT it is converted to morphine, giving it a longer duration of action
    - Withdrawal typically occurs within 4-6 hr
      - Peaks at 1-3 d
      - Resolves after 5-7 days
- Oxycodone:
  - Half-life = ~3.5 hr
- Buprenorphine:
  - Half-life = ~27-37 hr
- Methadone:
  - Half-life = ~59 hr

INTRAPARTUM MANAGEMENT

GOALS OF MANAGEMENT

- Control pain
- Avoid withdrawal
- Don’t contribute to a relapse

BARRIERS

- Concerns about overtreating
- Patients are difficult
- Question of bringing in outside substances
- Not wanting to trigger a relapse
- Not understanding withdrawal symptoms
- Patient mistrust of hospitals/providers
- Fear of the DEA
- Concern for harming the baby
- Judgment

GENERAL PRINCIPLES

1. Build a trusting relationship
   - Not easy – do your best
2. Universal screening
3. If they're stable on a dose, continue that and add to it
4. Control pain in similar ways to non-opioid-dependent patients
   - Using both nonopioid and opioid medications
   - Understanding that you may need higher doses of both
   - Studies have demonstrated that treating their pain does not increase the rates of relapse

DO NOT

- Treat INTRAPARTUM pain with additional doses of buprenorphine or methadone
  - Use other opioids instead
  - Due to the long half-life, methadone doses stack and can build up to dangerous levels and cause arrhythmias
  - Buprenorphine will block the efficacy of other opioids
- Give buprenorphine to a patient who has been using any other opioid
- Try to start someone on buprenorphine while in labor!
  - (Or after a cesarean!)

AN IMPORTANT NOTE

- Patients with Substance Use Disorder often (always?) have:
  - A history of trauma
  - Poor coping skills
  - An abnormal response to pain ("opioid hyperanalgesia")
  - Tolerance to usual opioid doses
  - Polysubstance use
- Sometimes they become mean, angry, or unreasonable during labor/delivery/postpartum
  - Our job is to support and help them through it
    - Even when they make it hard
- They're also hypersensitive to criticism/judgment
  - Real or perceived

IDENTIFICATION

- ACOG recommends universal screening of all pregnant women for substance use
- Screening can be achieved with either a questionnaire or asking directly
  - Potential for bias
  - UNIVERSAL screening is recommended
- Universal testing is also an option
  - Typically done on the urine
  - Logistical issues – rapid tests are much less accurate; definitive tests take days to result

INTRAPARTUM MANAGEMENT

Opioid-dependent patient arrives in labor

PATIENT ON A STABLE REGIMEN

- Usually fairly easy
  - Continue their home dose of methadone or Subutex when they arrive on L&D
  - And provide additional pain control as necessary
- Ideally, a plan will be in place beforehand
- No prenatal care but stable on a dose?
  - Still pretty easy – just continue their dose
    - During business hours you can contact their provider/pharmacy/methadone clinic to confirm the dose they have been taking

A PATIENT WHO IS ACTIVELY USING

- No longer easy
- Depending on the substance(s) they have used, they sometimes begin to withdraw around the time they get into active labor
- Patients unfortunately do sometimes use their own supply in the hospital
  - Having an IV in place makes it easy

A PATIENT WHO IS ACTIVELY USING

- First step:
  - Try to begin building a trusting relationship
- Second step:
  - Ascertain what they have been using and how much
- Third step:
  - Convert what they have been using to a medication we can give
  - Big problem – if using heroin, they typically don't know their dose in milligrams → hard to calculate
    - Estimate as best you can
- Fourth step:
  - Anticipate withdrawal and treat beforehand to prevent it
  - Remember, heroin withdrawals typically occur ~4-6 hr after the last dose

A PATIENT WHO IS ACTIVELY USING

- Treating/preventing withdrawal
  - Use the estimated dose
  - Figure out when they will start withdrawing
  - Use fast-acting opioids (ie PO oxycodone, IV fentanyl, IV morphine) to treat at the first sign of withdrawal symptoms
    - Okay to undershoot a little bit and then give additional doses once you've given them time to take effect
- Remember, DO NOT give additional doses of methadone or buprenorphine

A PATIENT WHO IS ACTIVELY USING

- Other issues
  - The hospital is not a prison
  - But consider discouraging the patient and her visitors from leaving the hospital
  - Leaving AMA

- Hopefully, if we are managing her pain and withdrawal appropriately, and have built a trusting relationship, she won't feel the need to leave
  - Easier said than done!

LABOR PAIN MANAGEMENT

- Can use opioids such as morphine or fentanyl
- My preference is to use an epidural
  - Most patients agree!
  - Epidurals and spinals are typically run with bupivacaine and fentanyl or morphine
    - Bupivicaine is not affected at all by opioids
    - Fentanyl or morphine may be less effective but are okay to include
  - Can be difficult for them to sit still if they're starting to withdraw
    - May need opioids and/or other agents (ie BZD) to help them to sit still

POSTPARTUM MANAGEMENT

GENERAL PRINCIPLES

1. Ideally, have a discussion with them beforehand (antepartum or intrapartum) about what to expect
2. Continue their maintenance medications as a baseline
3. Additional meds in a similar way to the usual patient
   - vaginal delivery → little to no additional pain meds
   - cesarean delivery → significantly more pain meds
4. Start with non-opioids
5. Add additional opioids as necessary
6. Communicate with peds

CONTINUATION OF MAT

- Postpartum MAT decreases the rate of opioid overdose deaths
  - No question that it should be continued

WHAT IF THEY'RE NOT ALREADY ON MAT?

- Starting MAT immediately postpartum can be difficult
- Methadone: start at 30 mg and titrate up slowly, 10 mg every 3d
  - Typical dose = ~90-10 mg/d → can take weeks to get there
- Buprenorphine: have to wait for them to be in mild-moderate withdrawal before starting
  - Difficult if also dealing with post-cesarean pain
  - Can successfully be done after a vaginal delivery
- If rooming-in with the infant for a prolonged period, higher chance of success

POSTPARTUM PAIN

- I have a frank discussion with patients beforehand to help them understand that while their pain may be more difficult to control, we are on their side and will keep working at it
- In non-opioid-dependent patients, I rarely use opioids after a vaginal delivery
  - I try to do the same with opioid-dependent patients
  - But recognize that they will need more treatment than an opioid-naïve patient
- After cesarean, they typically need more meds
  - Start with non-opioid meds and add opoids PRN

METHADONE

- Continue their home dose
  - Does not need to decrease after delivery
    - Methadone requirements sometimes can go back down after delivery
      - But best practice is to continue their dose while in the hospital
        - Decrease if necessary as an outpatient once she has recovered from the delivery
- Can sometimes alter the dosing interval to help

BUPRENORPHINE

- Continue their home dose
- Can be difficult to predict the amount of opioids they will require
- More difficult in patients on buprenorphine than methadone given the partial agonist activity of buprenorphine
  - Women on buprenorphine require 47% more opioids than those not on buprenorphine

NONOPIOID PAIN TREATMENT OPTIONS

- Ketorolac
  - Best option
  - Please do not compare it to ibuprofen!
- Gabapentin
  - Data in post-cesarean use for the general population seem to show it is no better than placebo
  - No studies exist in this specific population
  - I have had great success with it
- Consult the Pain Team
  - If you don't have one (we don't!), Anesthesia can usually help out
- Post-cesarean:
  - TAP blocks
  - Pain ball

NEWBORN

- Communication with the newborn team is very important
- Eat-Sleep-Console (a wonderful topic for a different day!)
- Important to prepare the patient for this (ideally antepartum) so they don't think they're being punished
  - Can encourage them to be part of their baby's care

BREASTFEEDING

BREASTFEEDING IN WOMEN ON MAT

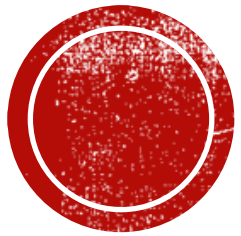
- Should be encouraged!
- Breastfeeding by women on MAT has been associated with:
  - Decreased severity of NAS
  - Less need for opioid administration to the infant
  - Shorter length of stay for the infant
  - Better maternal-infant bonding
- Additionally, it's good for all of the usual reasons
  - Immunity
  - Better nutrition
  - Mom losing the baby weight
  - Etc

BREASTFEEDING

- Transfer of buprenorphine and methadone into the breastmilk is minimal
- Of note, codeine and tramadol can result in higher doses of opioids in the breastmilk and should be avoided in breastfeeding women in most cases

BREASTFEEDING

- Contraindications to breastfeeding in women who are stable on MAT:
  1) Active ILLICIT drug use
  2) Maternal HIV
  3) The infant cannot breastfeed (she can still pump)
  4) I can't think of any others



DISCHARGE PLANNING

DISCHARGE PLANNING

- Does she have a safe environment to go home to?
- Ensure SW is involved and a plan is in place

DISCHARGE PLANNING

- Contraception plan
  - 80% of pregnancies among women with SUD are unplanned!

DISCHARGE PLANNING

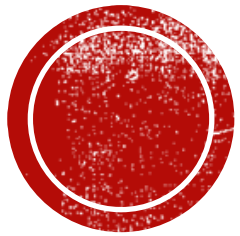
- NALOXONE!!!
  - AKA Narcan
  - Include with d/c prescriptions
    - And make sure they know how to use it!

WHEN/WHERE TO DISCHARGE

- If the patient needs uptitration of her dose, consider discharge to an inpatient rehab facility
  - Though availability is often limited
- Sometimes, a prolonged hospital stay is the only reasonable option

MANAGEMENT AFTER DISCHARGE

- Close followup in clinic
- Relapses are more common after delivery than during pregnancy
  - No longer worried about fetal effects
  - More stress
  - Less support
  - Loss of insurance/access to treatment
  - Sleep deprivation
  - Demands of caring for the newborn
- Substance abuse and overdose are increasing contributors to pregnancy-related mortality in the United States
- Clear, easy transition to a long-term provider when necessary
  - I prefer a direct provider-to-provider phone call



SUMMARY

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- Withdrawal is no fun
- Preventing withdrawal and treating pain on L&D and postpartum is important
  - Continuation of their MAT is key
  - Anticipate a withdrawal and provide treatment beforehand
  - Add non-opioids (first) and additional opioids (second) as needed to control pain
- Buprenorphine is a partial agonist and can decrease the efficacy of other opoids
  - If can also precipitate a withdrawal when first started
- Building a trusting relationship is very helpful in treating these patients
  - Discussions prior to arrival on L&D (when possible) can help provide a more smooth treatment
- Close followup and careful transition of care after discharge can literally save lives

QUESTIONS?

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