

Substance Use Disorders in Pregnancy

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Partnership Health Plan

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No conflicts of interest to disclose

Objectives

At the end of this discussion, participants will have an understanding of:

- The current impact of substance use disorder (SUD) on pregnant people, with an emphasis on the opioid epidemic
- Up-to-date screening recommendations for SUDs during the perinatal period
- Evidence based treatment for OUD in the perinatal period, in both inpatient and outpatient settings
- Effective and quick communication techniques for talking with pregnant patients regarding:
 - What to expect after during and after delivery (i.e. neonatal withdrawal, medication adjustment, etc)
 - Navigating various levels of patient's readiness to change or accept treatment
 - Dealing with stigma and the importance of mental health and other support systems
- The role that motivation interviewing has in a busy clinician's schedule and how it can make your job easier

How big is the problem?

Overall rates of use in pregnancy

(National Survey on Drug Use and Health 2023)

- 5% used illicit drugs in the past month
- 5% used tobacco in past month
- 5% binged on alcohol in past month
- *15% of pregnant individuals meet criteria for an SUD prior to getting pregnant*

Effect of **income** on rates of use within past month while pregnant

- Marijuana:
 - Below poverty line: **11 %**
 - One to two hundred percent of poverty line: **3%**
 - Above two hundred percent of poverty line: **2%**
- Daily tobacco:
 - Below poverty line: **11 %**
 - One to two hundred percent of poverty line: **9%**
 - Above two hundred percent of poverty line: **4%**
- Alcohol:
 - Below poverty line: **5% used**
 - One to two hundred percent of poverty line: not listed
 - Above two hundred percent of poverty line: **9% (opposite trend)**

Nationally: Alcohol use in pregnancy

- 8.4% of all pregnant women used any alcohol in past month
- 4.8% have binged during past month
- 1.7% report heavy alcohol usage during past month
- Compared to non-pregnant rates: 49.8%, 26.0%, and 5.9% respectively

But- what is addiction??

- First- what is it NOT?
 - Not just tolerance to a substance
 - Not just dependence on a substance
 - Not a character defect (lazy, stupid, violent)
 - Not selective
 - Not something people choose for themselves
 - Explore your own feelings about this one!

So- what is addiction then?

Medical disease model:

Repeated **exposure** to a substance



Biochemical **molding and adaptation** of the brain's pathways

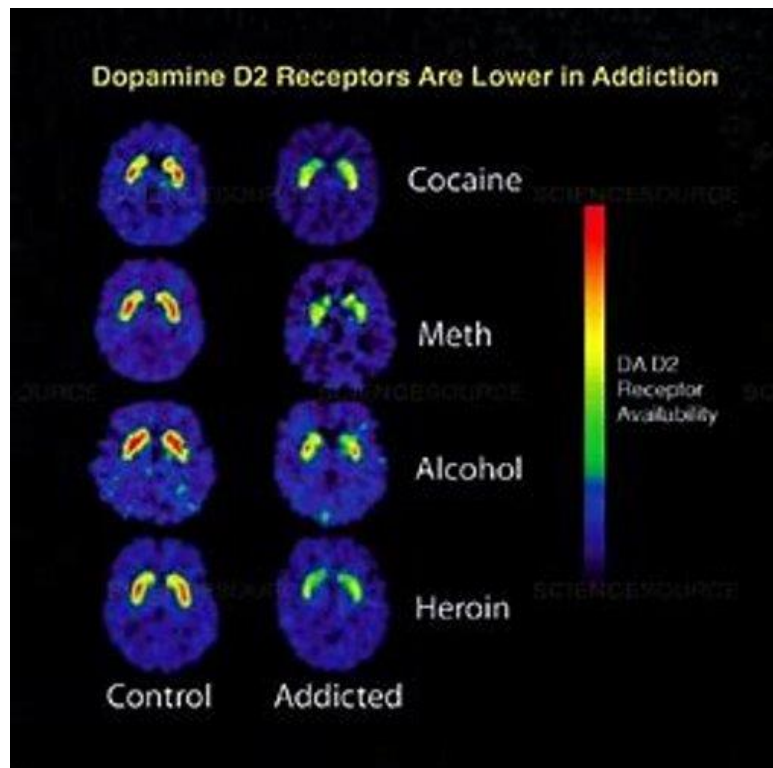
What kind of medical disease?

- Chronic (mild, moderate, severe)
- Relapsing/remitting
- Often terminal

Repeated **exposure** to a substance



Biochemical **molding and adaptation** of the brain's pathways:

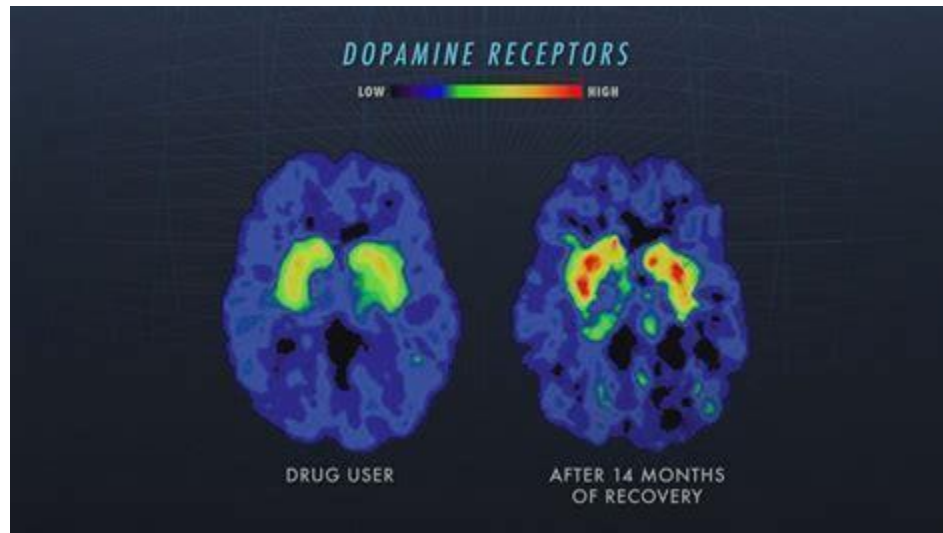


Neuroplasticity gone awry



maladaptive behavior!

But it can be reversed



The “addicted” brain:

- Substance use is no longer to get high, but to feel normal
 - Blunting of reward response if uses
 - Highs get progressively less fun
 - Reinforcement of punishment if no use
 - Lows are terrible, worse than prior to disease

» We'll come back to this later...

Example: the opioid-addicted brain

Positive effects with initial use	Negative effects of non-use after build-up of tolerance
↑ Dopamine – feel good	↓ Dopamine - dysphoria
↑ Opioid peptides – pain relief	↓ Opioid peptides- pain, hyperalgesia
↑ Serotonin – peacefulness, feel-good	↓ Serotonin - dysphoria
↑ GABA - calmness	↓ GABA – anxiety, panic

(G Koob PhD “Common Elements of Neuroplasticity of Addiction” presentation CSAM 2013)

How that relates...

- Defining addiction is hard
 - Highly variable presentations
 - Differing meanings depending on setting
 - Medical
 - Recovery community
 - Public
- 11 criteria exist for diagnosing a use disorder
 - All but two (tolerance and withdrawal) relate to some degree of maladaptive brain pathways

TABLE 2.

DSM-5 Criteria for Substance Use Disorder

Criterion	Severity
Use in larger amounts or for longer periods of time than intended	Severity is designated according to the number of symptoms endorsed: 0-1: No diagnosis 2-3: Mild SUD 4-5: Moderate SUD 6 or more: Severe SUD
Unsuccessful efforts to cut down or quit	
Excessive time spent using the drug	
Intense desire/urge for drug (craving)	
Failure to fulfill major obligations	
Continued use despite social/interpersonal problems	
Activities/hobbies reduced given use	
Recurrent use in physically hazardous situations	
Recurrent use despite physical or psychological problem caused by or worsened by use	
Tolerance	
Withdrawal	

SUD, substance use disorder

Adapted from Diagnostic and Statistical Manual of Mental Disorders, fifth edition.²³

But make it easy:

- “4 C’s”
 - Controlled by the substance
 - Compulsion to use
 - Continued use despite harm
 - Cravings during periods of abstinence

A note on terminology

- In healthcare settings:
 - Limit stigmatizing language
 - No longer characterized as “abuse”
 - "Clean" vs "dirty" connotes a quality that is not medical
- In the community:
 - Terms can mean something completely different to different people
 - Addiction, recovery, sobriety, clean vs dirty, etc

Classes of substances

- Tobacco
- Alcohol
- Sedatives/hypnotics
- Stimulants
- Hallucinogens
- Cannabinoids
- Opioids

Tobacco

- Perinatal risks:
 - SAB, low birth weight, abruption, PPRM, preterm delivery, abnormal placentation, IUFD
- Neonatal/childhood risks:
 - Respiratory problems, SIDS, behavioral problems
 - Girls: increased risk of substance use in adolescence
 - Boys: increase in oppositional defiant disorder*

*Wakshlag LS et al Child and Adolescent Psychiatry, April 2006

Tobacco

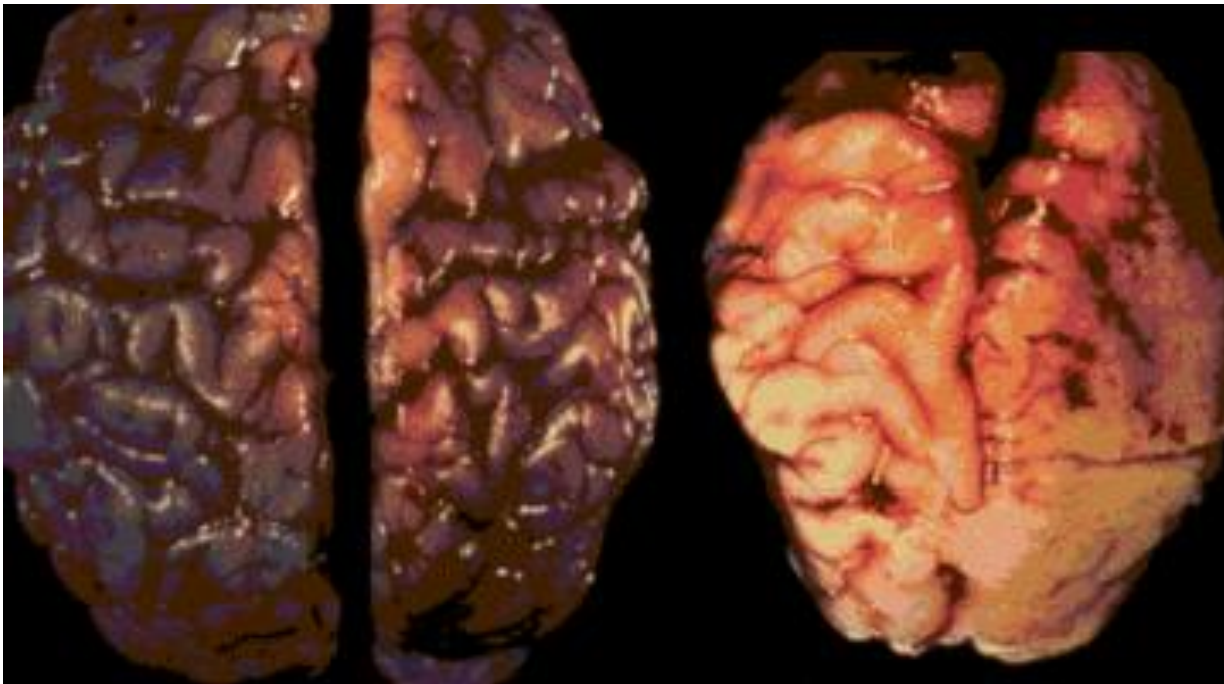
- 54% of smokers quit on their own when they become pregnant, but for those who can't:
- CBT, quit lines, other pregnancy-specific support
- Pharmacotherapy:
 - Bupropion, varenicline (both class C)
 - No good RCT's
- Nicotine replacement therapy
 - Nicoderm CQ = cat D
 - Scarce data on overall effectiveness in short or long term
 - May help reduce the amount smoked, which improves birth outcomes (Li et al JAMA 1993)
 - Should be patient specific, with clear goal to quit

Please screen!

Alcohol- treatment in pregnancy

- Withdrawal can be fatal
 - Imperative to detect
 - Restlessness/insomnia, agitation, tremor, fever, sweating, hallucinations, HTN, tachycardia, tachypnea, seizures
 - Needs inpatient management
 - Benzos also pose risk, but risk of withdrawal greater than risk of benzos
 - Ongoing treatment:
 - 12 step, behavioral counseling, harm reduction, nutritional support
 - ?gabapentin

Fetal alcohol syndrome



FAS

- Affects as many as 40,000 live births in US per year
- Umbrella term that describes the range of effects:
 - Growth problems, learning disabilities, vision/hearing problems, behavioral issues, abnormal facial features
- No cure, only prevention
 - Dose response: the earlier the intervention the better

Please screen!

Benzodiazepines

- Similar to alcohol
 - Withdrawal can be fatal
 - Consider risks of taper vs continuing
 - Risk of NAS vs risk of destabilization, seizures
 - Withdrawal sx similar to alcohol withdrawal (some even mimic pregnancy sx)
 - Restlessness, agitation, tremor, and insomnia
 - Nausea/vomiting
 - Seizure

Stimulants

- Methamphetamines, cocaine, many new designer drugs
- Pregnancy risks:
 - Preterm labor
 - Placental abruption
 - Fetal growth restriction
 - Hypertensive disorders
 - Psychosis
 - Nutritional/dental problems

Stimulants

- Withdrawal unpleasant but not fatal
- Limited medical treatment options
 - ?Remeron
- Be sure to treat depression/anxiety disorders aggressively (uphill battle due to severe dopamine dysregulation)
- Contingency management has best evidence

Cannabinoids

- Suspected linkage to:
 - Decreased length of pregnancy
 - Lower birth weight
 - Increased risk of SIDS
 - Increased childhood respiratory problems
 - **Childhood cognition problems**
- Data seems confounded by tobacco use
- "No safe amount"

Opioids- Perinatal risks

- Preterm labor
- Pre-eclampsia
- Placental abruption
- Low birth weight
- Non-reassuring fetal status
- Perinatal mortality

Opioids: Neonatal risks

- Neonatal opioid withdrawal syndrome
- Prematurity
- Neural tube defects
- Microcephaly
- Neurobehavioral deficits
- SIDS

Opioids- general risks

- Overdose
- Use disorders
- Cognitive risks
- Bowel function problems
- Lifelong decreased functional status
- Hyperalgesia

Opioid withdrawal in pregnancy

- Can cause fetal distress, premature labor
 - Related to increased oxygen consumption by both mother and fetus, increased sympathetic tone
- Even minimal maternal symptoms can cause significant distress to fetus

Here's my pitch...



Pregnancy is our chance to intervene for ***mothers:***

- Increased motivation
- Increased encounters with healthcare
- Increased general support from the community

Pregnancy is our chance
to intervene for ***families (breaking
the cycle):***

- A primary risk factor for SUDs = history of ACEs
 - By treating a pregnant mom, you are in effect trying to "break the cycle" by preventing future ACES for her children

OK, so what do I do?

SBIRT

- Screening
- Brief Intervention
- Referrals
- Treatment

SBIRT- Screening

- When? Before, during, and after pregnancy!
 - **Repeated** screening encouraged due to stigma/hesitation to admit use
 - *Recall- 15% of pregnant individuals meet criteria for an SUD prior to getting pregnant*

First- what are we screening for?

- Risky use!
 - **Not a diagnosis** of a use disorder, but means should be evaluated for one
 - Can be done by anyone
 - Written or verbal
 - *Recall- diagnosis made by 11 criteria*
 - *Must be done by licensed clinician*

Screening for use disorders

- Screening should be universally offered
- Be especially vigilant if risk factors present:
 - Older age (alcohol), younger age (all others)
 - Income or housing instability
 - Lack of social support
 - At risk for trafficking
 - Sex worker
 - Family history, especially alcohol (4x increased risk)
 - Repeated encounters with criminal justice system
 - Prior children not currently in care
 - Partners/support persons who are using
 - Late to care, missed appointments
 - History of SUDs in past

SBIRT- Screening

- (Intake questionnaires)
- (Urine toxicologies)
- **Ask (use screening tools)**
 - Opinion: Providers should ask in addition to non-licensed staff (patients may be more comfortable divulging to me after several visits, as opposed to stranger on the phone)
- Screening tool plus utox more effective at detection than either alone
 - Both are standard of care

5P's

1. Did either of your **Parents** have problems with alcohol or drug use?
2. Do any of your friends (**Peers**) have problems with alcohol or drug use?
3. Does your **Partner** have a problem with alcohol or drug use?
4. Before you were pregnant did you have problems with alcohol or drug use? (**Past**)
5. In the past month, did you drink beer, wine or liquor, or use other drugs? (**Pregnancy**)

5P's

- Can be less threatening way to approach patient
- Gives some collateral information about their lives

NIDA Quick Screen: super easy!

National Institute on Drug Abuse quick screen

In the past year*, how often have you used the following:	Never	Once or twice	Monthly	Weekly	Daily or almost daily
1. Alcohol, four or more drinks per day					
2. Tobacco products					
3. Prescription drugs for nonmedical reasons					
4. Illegal drugs					

* For pregnant women, ask about substance use since the woman became pregnant.

Modified from: National Institute on Drug Abuse (NIDA). The NIDA Quick Screen.
Available at: <https://www.drugabuse.gov/sites/default/files/pdf/nmassist.pdf>
(Accessed on September 21, 2016).

SBIRT- Brief Intervention

- Motivational Interviewing
 - Heavily supported by evidence
 - Can be done effectively in 5 minutes
 - Takes pressure off clinician

Motivational interviewing

NOT data gathering!

NOT persuading!

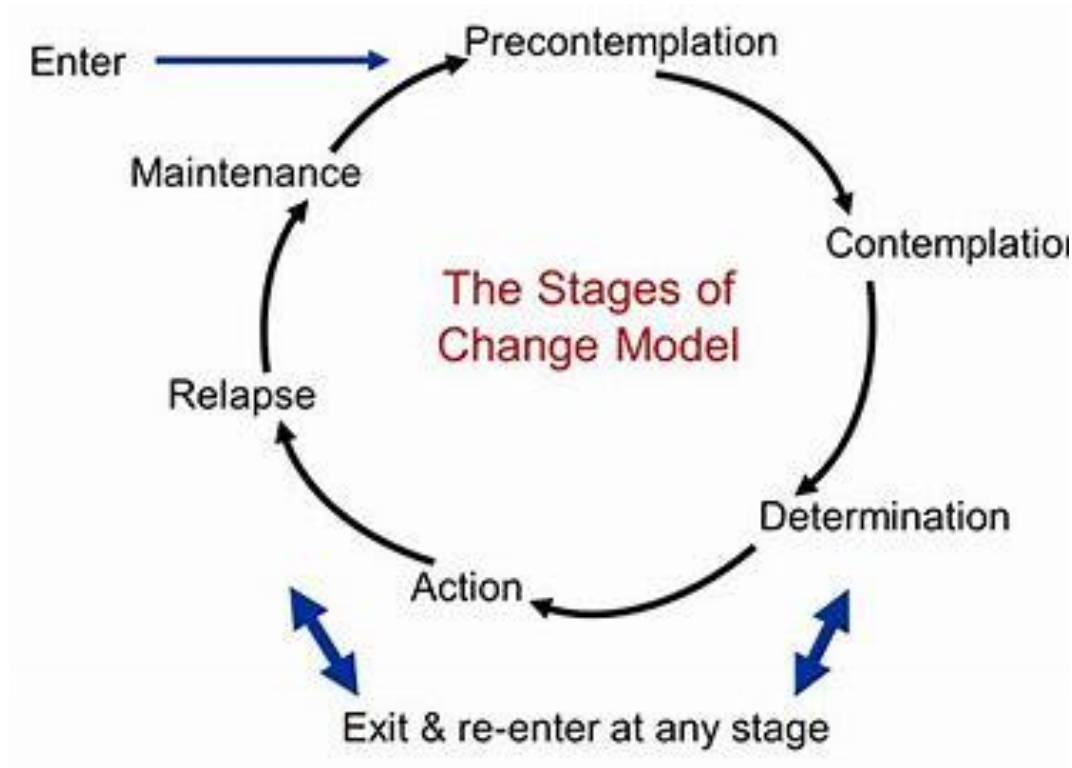
NOT fixing!

Think of it as "dancing" (moving together) vs
"wrestling" (moving in opposition)

MI- why it works

- Goal is to have patient do the work of:
 - developing discrepancy between actions and goals
 - working through ambivalence about change
 - progressing through stages of change

Stages of Change



Motivational Interviewing- but what do I say?

- Use your OARS!
 - Open ended questions
 - Affirmations
 - Reflections
 - Summarizations



OARS

- Open ended questions:

“Where are you at with cutting down on meth?”

“What does the meth do for you?”

“What concerns you about your meth use?”

“What are some reasons you might want to quit?”

- Affirmations:

“You’ve done great cutting back. Where do you want to go next with this?”

"You're already showing what a great mom you are just by coming to your visit today"

OARS

- Reflections

"I don't know if I can handle this" -->

"You're feeling really overwhelmed right now"

"I just want to do what's best for my baby" -->

"You want to do the best thing for your baby"

- Summarizations

"So you're a bit scared, but you're willing to work really hard. You want to learn more about treatment, and I'll give you a few resources today"

Referrals:

- Recovery treatment programs:
 - Inpatient (medically supervised live-in or hospital)
 - Residential (non-medical live-in)
 - Intensive outpatient (non-medical, daily to weekly meetings)
 - Medication-assisted treatment programs (outpatient, daily to q3-6 months)
- Mental health
- Social worker
- Peer support

SBIRT: Treatment

- Considerations for prenatal and postpartum periods
- Considerations for hospital/Labor and Delivery care

Treatment

- Methadone
- Buprenorphine
- ~~"Detox"~~

Detox

- "Why can't I just quit and not be on anything?"
 - Non-medically supported "detox" has worse outcomes overall
 - High risk of relapse and further destabilization
 - Each relapse tends to be "harder"
 - Very high risk of overdose with each subsequent relapse
 - If patient opts for this; advise residential treatment, needs extensive support network

MOUD: Medication for OUD (formerly MAT)

- Methadone
- Buprenorphine

So what do these meds do?

- Improve long term stability by:
 - Initially getting someone physically comfortable-out of withdrawal
 - Then maintaining someone at new "normal"
 - Minimize physical and emotional cravings so one can focus on other parts of recovery- mental health, etc
 - Reduce risk of relapse and lifetime risk of death related to OUD

But first...

- You have to get her to come back
 - Trust building
 - Lots of questions and fear
 - Internalized stigma on top of experienced stigma

Be a pillow, not a rock

- Be a “soft place to land” when a mother screens positive
 - She likely already feels guilty
 - She likely already knows she should quit
- Create a safe space where she can be honest with you without feeling judged
 - Even if her decisions seem counterintuitive, meet her where she’s at
 - Be patient; here’s why:

Recall: the opioid addicted brain:

Positive effects with initial use	Negative effects of non-use after build-up of tolerance
↑ Dopamine – feel good	↓ Dopamine - dysphoria
↑ Opioid peptides – pain relief	↓ Opioid peptides- pain, hyperalgesia
↑ Serotonin – peacefulness, feel-good	↓ Serotonin - dysphoria
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(G Koob PhD “Common Elements of Neuroplasticity of Addiction” presentation CSAM 2013)

ODD natural history

- Initial high comes from surge of stimulation of dopamine reward system
- But then reward response extinguished as system adapts to new baseline of dopamine
- Brain **dulled to pleasure, sensitized to stress**
- Frontal lobe/executive function compromised as brain “remodeled”
 - Decision making and priorities are altered

So when you meet her:

- Don't be offended or surprised if she used prior to visit in order to be present
- If she is in withdrawal:
 - Unrelenting panic state
 - Dysphoria; unable to see the light and end of tunnel yet
 - Physically ill, nauseous and hyperalgesic
 - Likely cranky

How to talk about it

- Common questions/concerns:
 - Hesitancy around using a "crutch"
 - Reassure that this is a medically recommended treatment, in same line as using insulin to treat diabetes
 - Offer peer support if available
 - Hesitancy around getting baby "addicted"
 - Reassure that MOUD has been reviewed and recommended by major societies' guidelines around perinatal and neonatal care (ACOG, SMFM, AAFP, etc)

Common questions/concerns (cont):

- Hesitancy around required monitoring of baby after delivery and possible need for morphine/medical care
 - Counsel around your hospital's NICU policies and procedures
 - Review Eat/Sleep/Console guidelines and encourage nursery staff to implement if possible
 - Consider multidisciplinary pre-delivery meeting
 - OB, nicu, nursing, social work, substance use navigators, and patient and her support
- Hesitancy around potential CFS/CPS involvement
 - Provide reassurance she is doing best thing by coming to visits and accessing care/resources
 - Encourage to be open to their recommendations, remind them their goal likely aligns with hers (safety and well-being of baby)

Medication for Opioid Use Disorder (MOUD)

- Methadone
- Buprenorphine

Comparing methadone to buprenorphine

- Methadone
 - Category C
 - Full mu agonist
 - $\frac{1}{2}$ life 24-30 hours
 - Excellent oral bioavailability (= high overdose risk)
 - Lots of drug-drug interactions, cardiac issues
 - Less challenging than buprenorphine to start (just start)
 - Requires daily visits to methadone clinic
 - Often associated with significant stigma, inconvenience
- Buprenorphine
 - Category C
 - Partial mu agonist, but high receptor affinity
 - $\frac{1}{2}$ life 24-60 hours
 - Poor oral bioavailability, must be taken sublingually (= less overdose risk)
 - Ceiling effect: (= less overdose risk)
 - More challenging to start ("Induce" once in withdrawal)

Methadone vs Buprenorphine

- “MOTHERS” study: Jones et al NEJM Dec 2010
 - Buprenorphine vs methadone
 - Outcomes: NAS (scores, total morphine dose, length of treatment, length of stay, birthweight, preterm rate)
 - RCT, double blind double dummy
 - Flexible dosing
 - N = 175 women at 8 sites

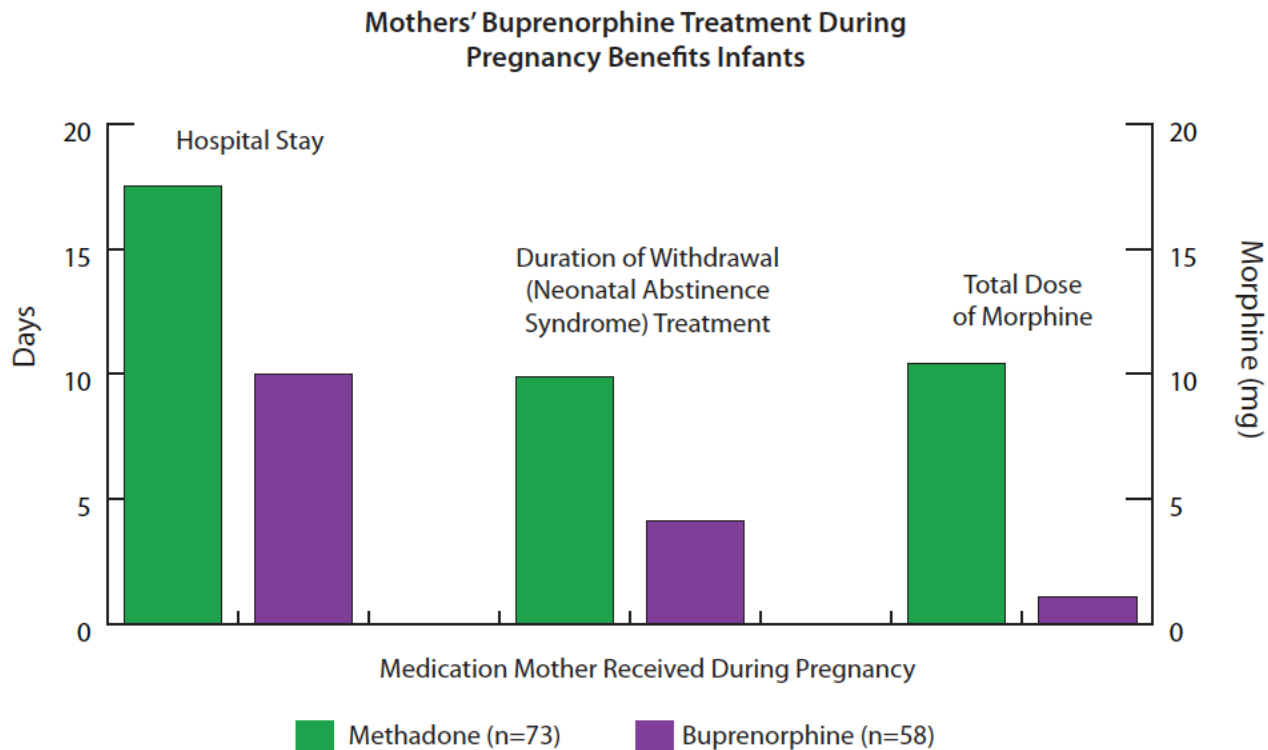
“MOTHERS” study cont.

	Methadone (n = 73)	Buprenorphine (n = 58)
Mean morphine dose (p < 0.003)	10.4mg	1.1 mg
Days with NAS (p < 0.003)	9.9	4.1
Days in nursery (p < 0.003)	17.5	10
Birthweight (p = 0.03)	2878g	3093g
# <i>preterm</i> * (p = 0.07)	14 (19%)	4 (7%)

The MOTHERS study:

Methadone vs buprenorphine

(neonatal outcomes)



Buprenorphine common formulations

- "Suboxone" (tablets, films):
 - Buprenorphine plus naloxone
 - Naloxone = opioid antagonist
 - Not active unless used intravenously
 - Placed by DEA recommendation to discourage illicit IV use
- "Subutex" (tablets):
 - Buprenorphine alone

Buprenorphine: use in pregnancy

- OLD SCHOOL: Use buprenorphine alone (avoid naloxone)
- Ok to give what they tolerate best

Buprenorphine: use in pregnancy

- Try to have risk/benefit discussion with patient ahead of time, **ideally when not in withdrawal**
 - Not always possible!

Buprenorphine: how it's used

- Poor bioavailability (must be taken sublingually, transdermal, subQ)
- DOES NOT appear on standard utox as opiate
- Needs to be “induced”
 - Patient must be in withdrawal prior to first dose
 - buprenorphine's high receptor affinity will kick off other opioids, cause precipitated withdrawal
 - Ideal dose varies, titrated to withdrawal symptoms
 - can take days-weeks to achieve optimal dose

Buprenorphine:

"Standard" induction/initiation

- Useful with non-fentanyl opioids
- Stop using for at least 24-48h, longer the better
- Have patient be in as much withdrawal as possible
 - COWS will help you
 - COWS score 8 or higher generally sufficient withdrawal (scale of 0-36)

COWS

- Clinical Opiate Withdrawal Scale
 - Assesses mild/mod/severe withdrawal
 - When inducing buprenorphine, compare scores over time (initial, 1 hour after initial dose, 2-4 hours after initial dose)
 - Not always practical but should be done if induction happening in monitored setting to appropriately adjust dosing in timely fashion

Phases of opiate withdrawal: using heroin as an example

- Anticipatory withdrawal (3-4 hrs)
 - Fear of WD, anxiety, drug seeking
- Early withdrawal (8-10 hrs)
 - Restless, nausea, HTN, cramps, rhinorrhea, sweating, yawning
- Fully developed withdrawal (1-3 days)
 - Muscle spasm, fever/chills, tremor, piloerection, dilated pupils, diarrhea

Buprenorphine:

"Standard" initial dosing

- Start with 2-4 mg, observe for precipitated withdrawal
- May take another 2-4 mg every few hours up to 12-16 mg day 1
- On day 2 going forward take total amount of mg taken on day 4 until reevaluated

In the fentanyl era

- "Macro"-dosing (common in ED, CA Bridge program)
 - Hold off on use as long as possible
 - Start at 16-32 mg day 1, then 16 mg daily until seen in clinic
- "Micro"-dosing
 - Titrate up tiny buprenorphine doses while titrating down fentanyl/drug of choice
 - Start 0.125-0.25mg day 1, dose up to 2-8 mg by end of week
 - Also helpful if switching to methadone or other long-acting opioid

But isn't withdrawal in pregnancy bad?

- Risk/benefit discussion
 - Overall risk of NO treatment is much worse than short term withdrawal risk, but may want to monitor closely
- Evaluation of overall risk factors
 - Gestational age
 - Other comorbidities
 - Likelihood of success/patient buy-in

Settings

- Outpatient
 - Prenatal care, psychiatry, PCP, ED, street medicine
 - May improve her willingness to start if she has perceived control/less "supervision"
- L&D
 - Third trimester
 - Any other risky thing (medical, social, psych)
 - May improve success given increased support
 - easier to treat through withdrawal symptoms while waiting to dose

Methadone dosing

- Start at 30-40 mg, divided dosing often helpful
- Titrate as needed
- High overdose risk
- For OUD (vs pain), can only be dispensed through a SAMHSA certified opioid treatment program (not a commercial pharmacy)

Prenatal considerations

- Doses of either buprenorphine or methadone often need to be increased towards the end of pregnancy
- Antepartum testing or other increased surveillance dependant upon other risk factors,
 - SUD not a sole indication for increased monitoring unless actively using or other concerns

L&D considerations:

- Keep withdrawal in your ddx for triage
- Continue MOUD in labor or for cesarean (can be stopped if necessary, but will need to fill opiate deficit)
- OK to use short acting opiates on top of buprenorphine or methadone
 - Avoid stadol with buprenorphine
- Epidurals are great

Postpartum

- C-section postop pain (recall, hyperalgesia and pain as a trigger)
 - Strongly consider PCA
 - Higher dosing requirements normal
 - Pain management needs on discharge- please dc with something on top of MOUD unless she declines
- Social work/interdisciplinary/psych input
- Breastfeeding encouraged unless otherwise contraindicated
 - Eat, Sleep Console highly effective for lowering risk of neonate requiring medication or prolonged NICU stay

Breastfeeding and buprenorphine

- US Dept. Health and Human Services SAMHSA Center for Substance Abuse Treatment: “Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction”:
 - Passes from plasma to breastmilk at 1:1 ratio
 - BUT poor oral bioavailability means infant exposed to 1/5 to 1/10 of total drug amount
 - Does not appear to suppress NOWS (but skin to skin does!!)
 - No NOWS observed after cessation of breastfeeding
 - As with methadone, use clinical judgment, consult with pediatrician

Bottom lines:

- Important initial goal is to get her to come back
- Screening is effective and is standard of care
- Use disorders are treatable medical conditions
- Buprenorphine is a good option for opioid use disorder in pregnancy
- We can do effective, brief interventions in many settings!

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