The Science and Practice of Treating Substance Use Disorders (SUDs) During Pregnancy

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Opioid Response Network
STR-TA

Working with communities to address the opioid crisis.

- SAMHSA's State Targeted Response Technical Assistance (STR-TA) grant created the *Opioid Response Network* to assist STR grantees, individuals and other organizations by providing the resources and technical assistance they need locally to address the opioid crisis .
- Technical assistance is available to support the evidence-based prevention, treatment, and recovery of opioid use disorders.

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Working with communities to address the opioid crisis.

- The Opioid Response Network (ORN) provides local, experienced consultants in prevention, treatment and recovery to communities and organizations to help address this opioid crisis.
- The ORN accepts requests for education and training.
- Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.

Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:
  - Visit www.OpioidResponseNetwork.org
  - Email orn@aaap.org
  - Call 401-270-5900

Disclosures

- Conflict of Interest:
- In accordance with continuing education guidelines, the speakers and planning committee members have disclosed commercial interests/financial relationships with companies whose products or services may be discussed during this program.

- Speaker: Candy Stockton, MD, FASAM has nothing to disclose.
- SOGI Limitations: Most references are from sources that assign all pregnant individuals as women and is quoted as such. We recognize that this does not accurately reflect the individual identities of all pregnant/birthing individuals.

Learning Objectives

- Explain why ACOG, ASAM, and WHO all oppose detoxification for Opioid Use Disorder (OUD) during pregnancy
- Name the 2 FDA approved treatments for OUD during pregnancy
- List two evidence-based treatments for stimulant use disorder
- Recognize the symptoms of Neonatal Abstinence Syndrome
- Explain the general guidelines for Eat/Sleep/Console

Substance Use Disorder and Pregnancy

- Women and opioid use disorder
  - Treatment options in Pregnancy
    - Methadone
    - Buprenorphine (Bup)
    - Naltrexone
    - Detoxification
  - Intra-partum care
  - Postpartum care
    - Post-operative pain control
    - Breastfeeding
    - Contraception
- Stimulant Use Disorder and Pregnancy
- Neonatal Abstinence Syndrome & Eat, Sleep, Console Treatment

Consensus Statements: White House Office of Drug Control Policy[1]

1. Having SUD in pregnancy is not, by itself, child abuse or neglect

2. Criminalizing SUD in pregnancy is ineffective and harmful as it prevents pregnant women with SUD from seeking and receiving the help they need

3. Everyone has the right to effective treatment, and denying such care on the basis of sex or disability is a violation of civil rights.

4. Pregnant women using substances or having SUD, should be encouraged to access support and care systems, and barriers to access should be addressed, mitigated, and eliminated where possible.

5. Improving coordination of public health, criminal justice systems, treatment and early childhood systems can optimize outcomes and reduce disparities.

Substance Use Disorders

SUDs are a chronic disease

Pregnancy is a temporary condition

Chronic Disease that Effect Pregnancy

DM (7-11% of pregnant women) [1]

HTN (1-5% of pregnant women)[2]

Depression/Mood disorders (10-20% of pregnancies)[3]

(Illicit) Substance Use Disorders (approximately 5% of pregnancies)[4]

Screening for SUD

Tools

- NIDA quick screen
- 4Ps/5Ps Plus
- CRAFFT (for women and adolescents 12-26 years old)

Urine toxicology is NOT screening for SUD

Know why you screen and be aware of the potential for unintended consequences

Reference:

- https://nastoolkit.org/explore-the-toolkit/best-practice/1

Pregnancy and SUD in NY

- “Court Findings And Rulings: Though there are no laws in New York stating whether drug use during pregnancy is a crime, in 2003, a New York State Supreme Court decision ruled that New York’s child endangerment law doesn’t apply to the actions that a pregnant woman takes, including using drugs during pregnancy.”
- There is no legal requirement for healthcare workers to report substance use or positive drug tests during pregnancy

- Sources:
  - https://www.drugaddictionnow.com/drug-use-during-pregnancy/new-york-pregnancy-laws/
  - https://www.guttmacher.org/state-policy/explore/substance-use-during-pregnancy

For Substance-Affected Infants

- NYS CAPTA CARA Resources
  - https://health.ny.gov/prevention/captacara/index.htm#mandated_data_collection
- Plan of Safe Care
- Reporting Requirements
  - www.nyc.gov/assets/acs/pdf/child_welfare/2020/PositiveToxicology.pdf
- Proposed legislative changes around drug testing:
  - https://www.nyclu.org/en/legislation/legislative-memo-prohibiting-drug-testing-pregnant-people

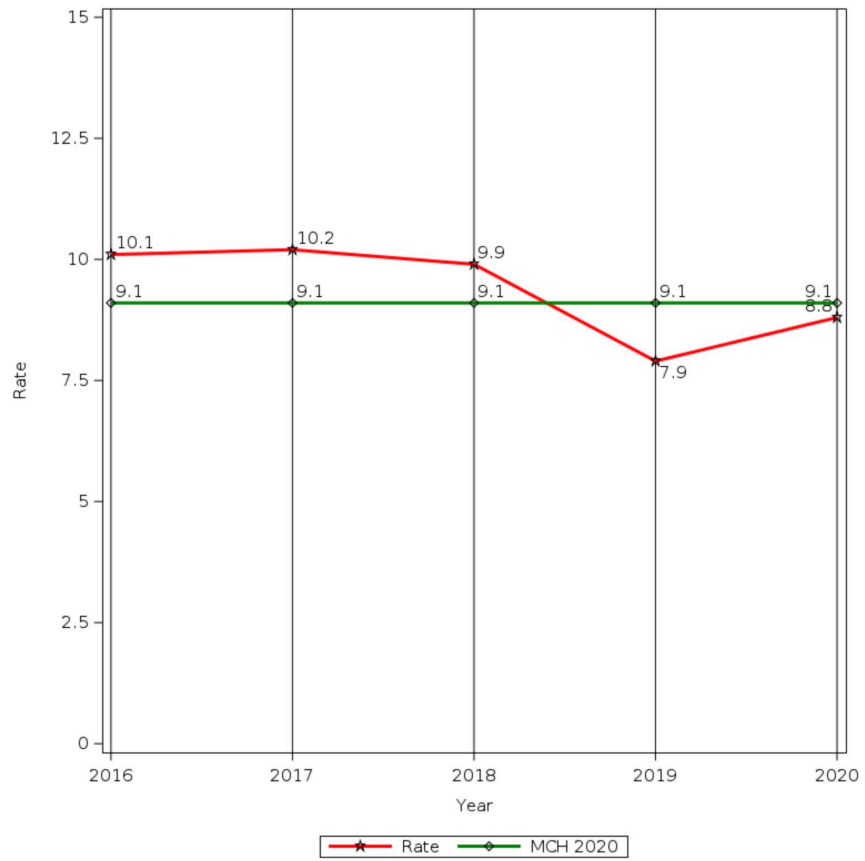
Substance Use During Pregnancy: NY Data[1]

8.3% report alcohol use during the 3rd trimester[2]

2.2% report nicotine use during the 3rd trimester[3]

Rate of substance-affected births in NY

New York State - Newborns with neonatal withdrawal symptoms and/or affected by maternal use of drugs of addiction (any diagnosis), crude rate per 1,000 newborn discharges



Pregnancy and Opioid Use Disorder (OUD)

- Nearly **50%** of pregnant substance use disorder treatment admissions are for opioids(1)
- **86%** of pregnant opioid-abusing women reported pregnancy was unintended (3)
  - In general population: 31%–47% are unintended
- **Overdose** mortality has surpassed **hemorrhage, pre-eclampsia and sepsis** as a cause of pregnancy-associated death(2)

Pregnancy and OUD

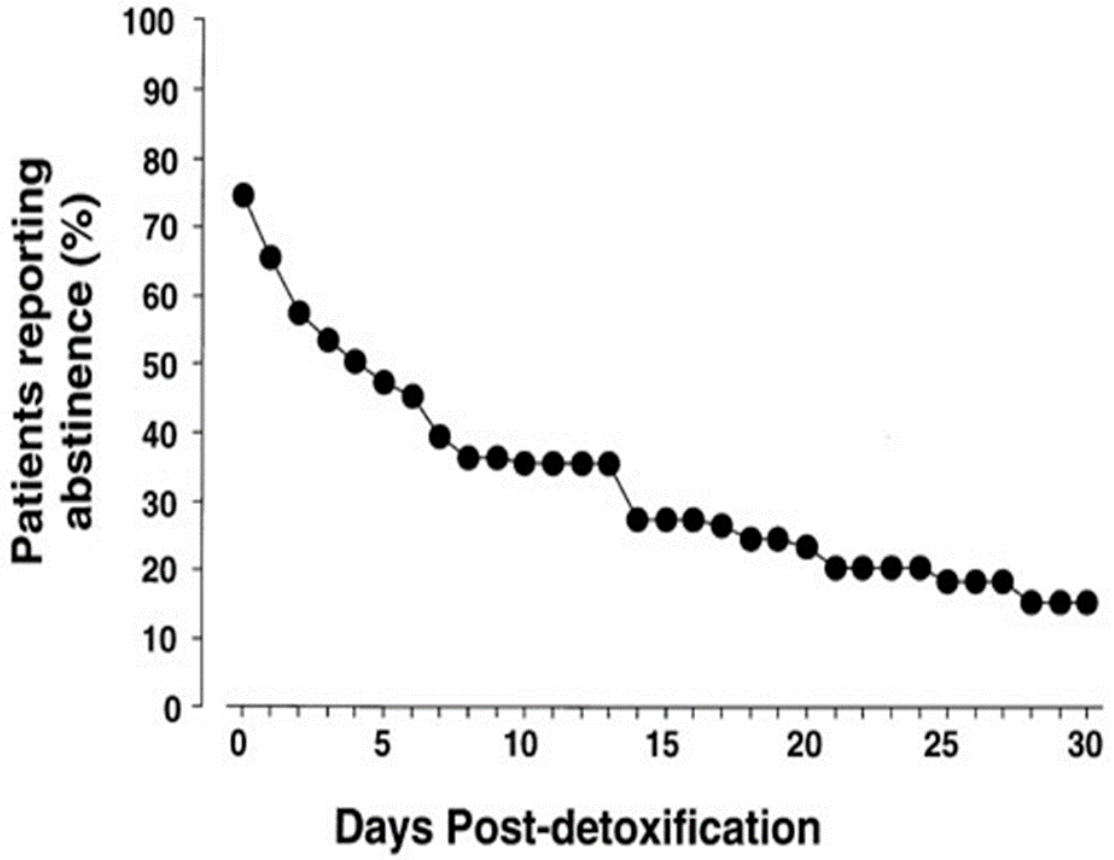
- **86%** of pregnant opioid-abusing women reported pregnancy was unintended (1)
  - In general population: 31%–47% are unintended
- Pregnancy can be a powerful catalyst for women to engage in treatment
- During Pregnancy
  - Adolescents report the highest illicit substance use in the prior month
    - Reported **substance use decreases with increasing maternal age** (NSDUH 2012-2013)
  - Trend toward reduction of use over gestation
    - Reported **substance use decreases with increasing gestational age** (SAMHSA TEDS 2014)

Medically Assisted Withdrawal in Pregnancy (Detoxification)

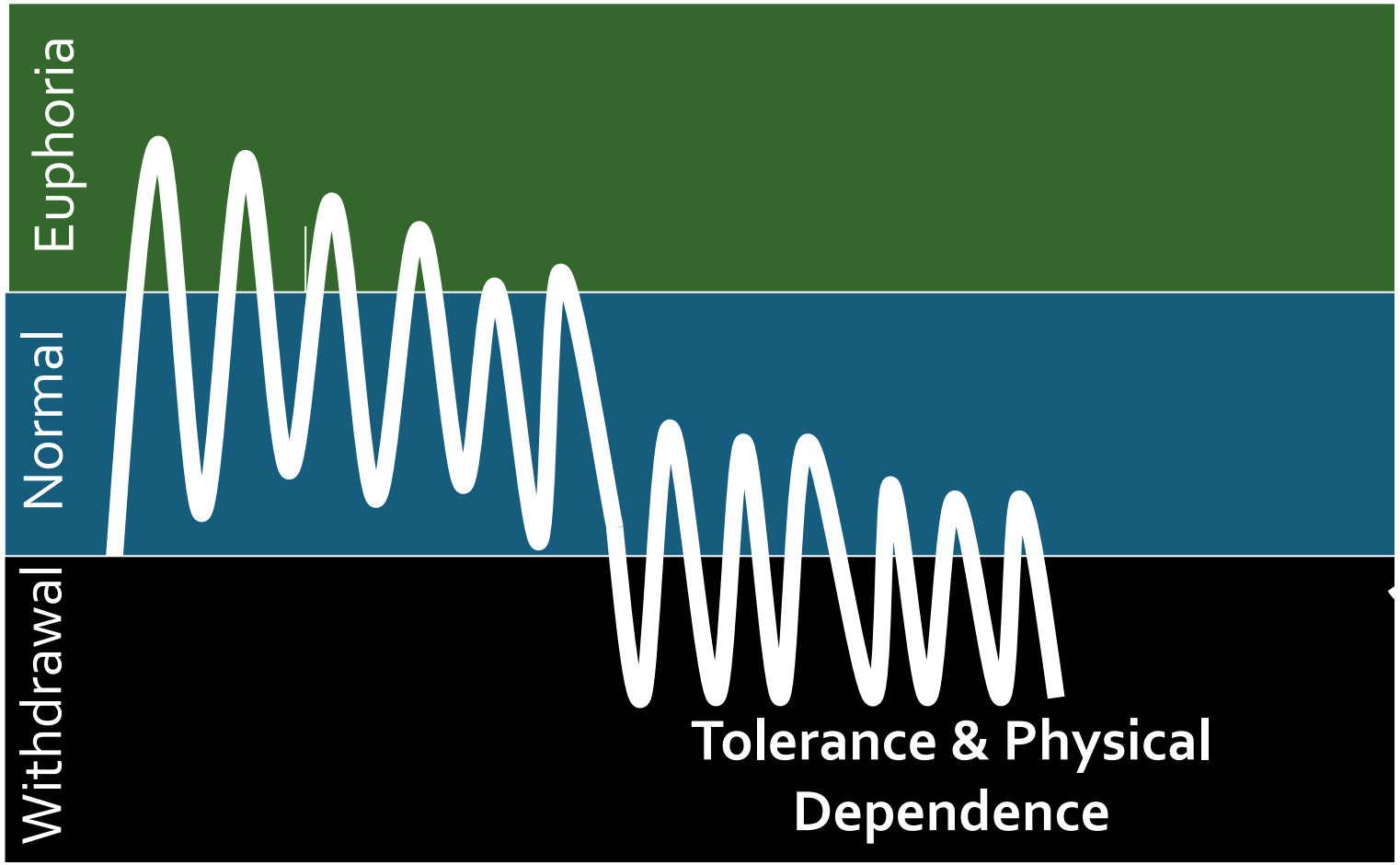
- Not recommended in pregnancy (1)(2)(3)
- **Withdrawal** management has **been found to be inferior in effectiveness over pharmacotherapy with opioid agonists and increases the risk of relapse without fetal or maternal benefit** (ASAM)
- Increased rate of relapse with associated overdose mortality following *detoxification*
- Increased access to opioid agonist treatment was associated with a reduction in heroin overdose deaths(4)
- Offering pharmacotherapy for OUD in pregnancy increases*
  - Treatment retention
  - Number of obstetrical visits attended
  - In-hospital deliveries

Medically Assisted Withdrawal in Pregnancy is NOT Recommended

- High risk of relapse (59-90%)
- Not standard of care

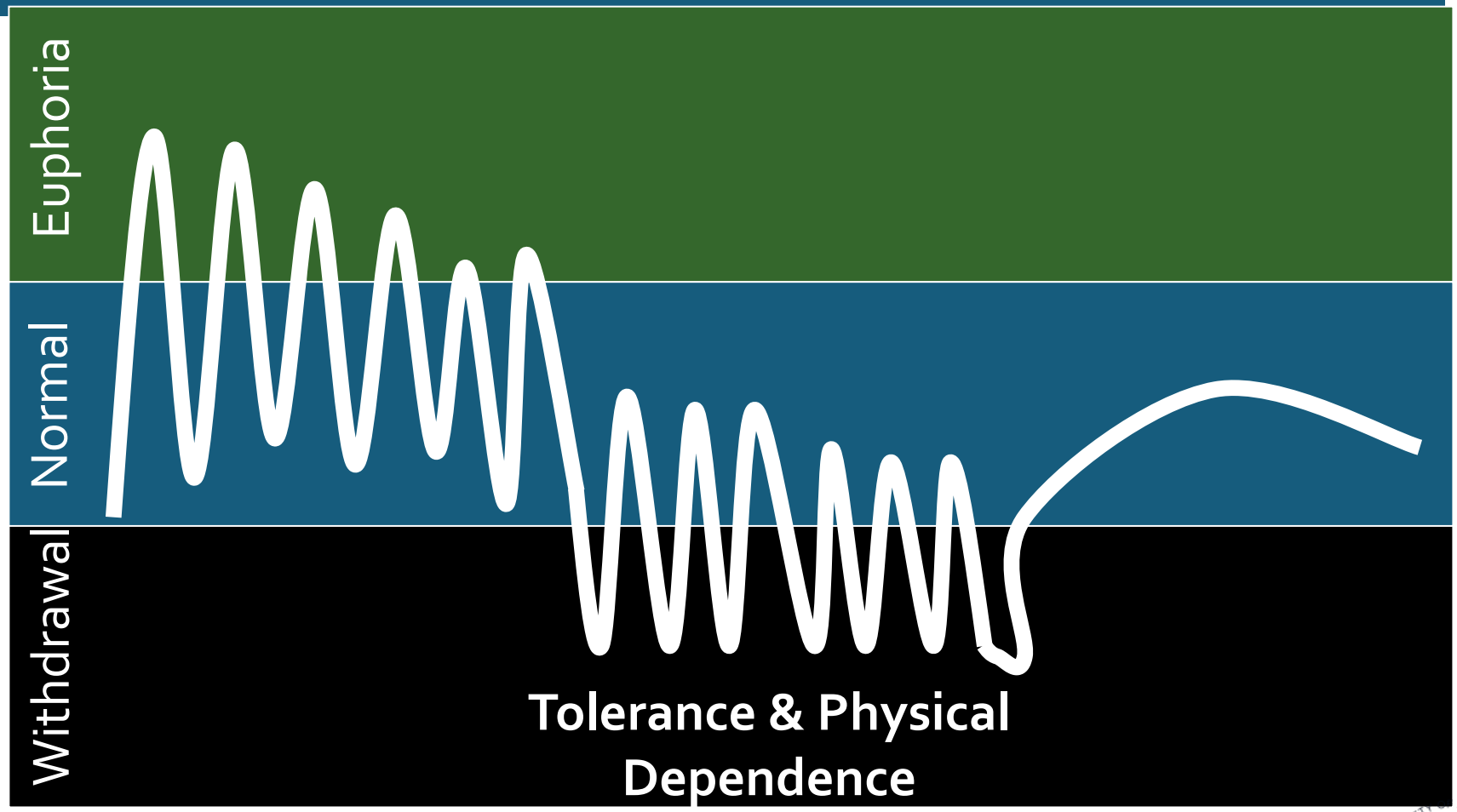


Staying well



ASAM American Society of Addiction Medicine

No longer in the cycle



Opioid Agonist Therapy

ASAM American Society of Addiction Medicine

ACOG Backs Buprenorphine and Methadone

Only FDA approved treatments in pregnancy

Reduce opioid use (cravings, withdrawal, euphoria)

Increase birth at term, higher birth weights

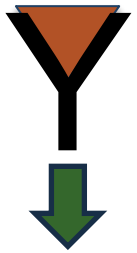
Prevent overdose deaths

Prevent HIV transmission

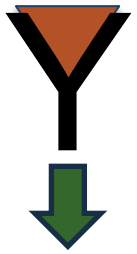
Support family function and appropriate parenting

OUD Treatment During Pregnancy

Yes	No
✧ Pharmacotherapy Only (acceptable)	✧ “Detox”
✧ Combination Pharmacotherapy with Behavioral Therapy (optimal)	✧ Behavioral Therapy Only



Non MAT Opioids: full agonist heroin, oxycodone, Percocet, etc



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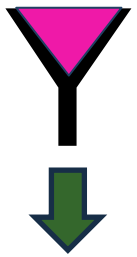
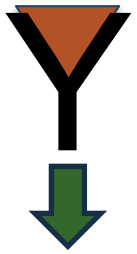


Methadone: full agonist
Activates receptor, prevents binding
Risk of sedation
Only at special clinics



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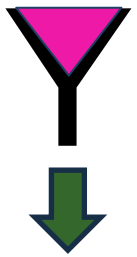

Methadone: full agonist
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Risk of sedation
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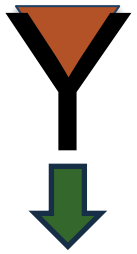
Naloxone (Narcan), Naltrexone (Vivitrol):
Full antagonist, high affinity



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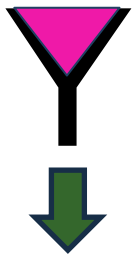
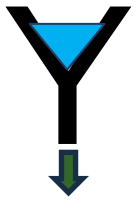


Methadone: full agonist
Activates receptor, prevents binding, risk of sedation



Buprenorphine (Suboxone, Subutex):
partial agonist
High affinity, ceiling effect
Risk of precipitated withdrawal

Naloxone (Narcan), Naltrexone (Vivitrol):
Full antagonist, high affinity

TREATMENT OPTIONS FOR OUD IN PREGNANCY

METHADONE

- NTP/OTP Programs
- Pregnancy category C
- Limited dosing flexibility
  - Split dosing in pregnancy is preferred due to increased clearance in later gestation
- Prolonged QT syndrome
  - Baseline EKG recommended
  - Repeat EKG for dosing changes above 100mg
- May contribute to lower birth weights when compared to Bup-exposed newborns

BUPRENORPHINE

- OBOT Programs
- Pregnancy category C
- When compared to methadone:
  - Lower preterm delivery rate*
  - Higher birth weight*
  - Larger head circumference*
- Allows for adjustable dosing (split dosing)
- Treatment retention for pregnant women may favor buprenorphine over methadone(2).

Intrapartum Care

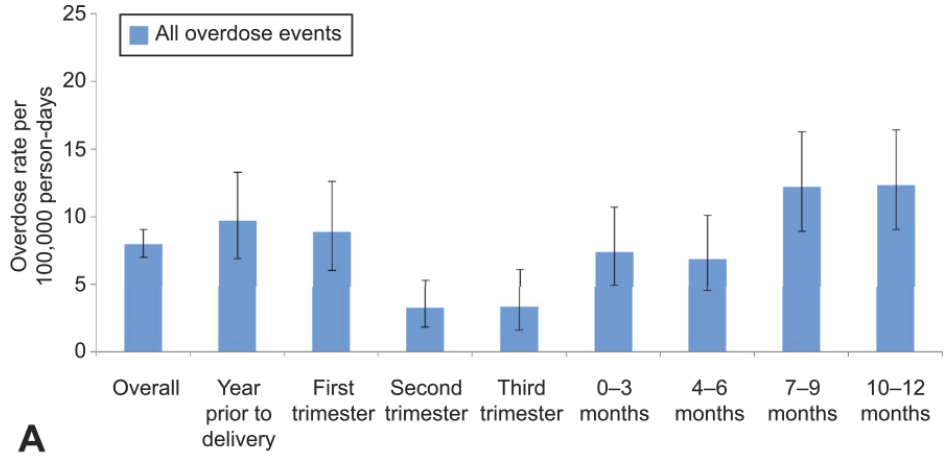
- Pharmacotherapy should be continued through labor (and postpartum) at same prenatal dose
- Labor pain should be managed with regional anesthesia (epidural)
- Do not use mixed opioid agonist-antagonist (butorphanol (*Stadol*)/ nalbuphine (*Nubain*))
  - Will precipitate a withdrawal syndrome for women on opioid pharmacotherapy
- Spinal anesthesia provides adequate pain control for C-sections

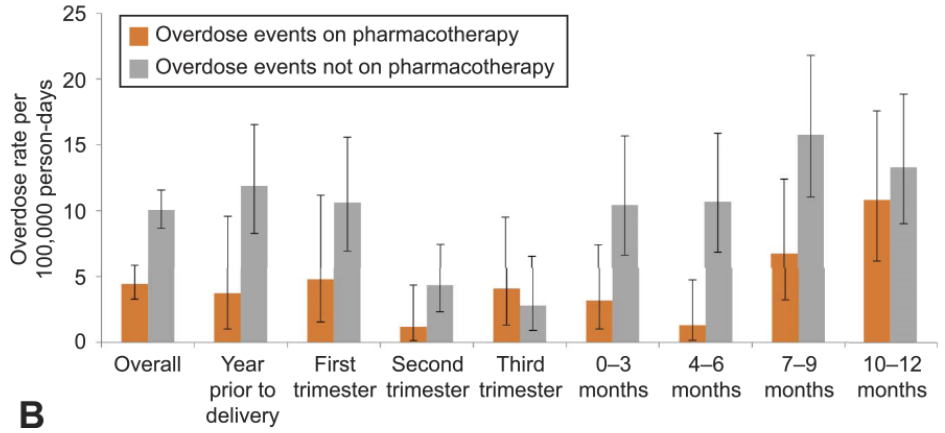
Postpartum
(patient's wishes regarding opioids postpartum should be established)

- Pharmacotherapy should be continued at same dose postpartum
  - Some women may require/request a dose decrease after delivery due to sedation
  - For MMT, Postpartum fatigue and potential peak dose sedation should be anticipated; and precautions taken
- NSAIDS and non-opioid pain medications should be maximized (scheduled orders; not PRN) (ketorolac, acetaminophen)
- **Full opioid agonists should be used for post-operative pain**
  - Bup and MMT patients have higher opioid requirements than general population (1)
  - Bup does not appear to prevent/block efficacy of full-opioids (Vilkins 2017)

Postpartum Monitoring and Counseling

- Frequent maternal follow up is needed
- Postpartum women are at high risk of a return to opioid use
- The first-year postpartum marks the highest risk of overdose death, with the highest rates 7-12 months after delivery





Naltrexone: Emerging Data in Pregnancy

- 25 published human cases: all with normal birth outcomes(1)(2)(3)
- Animal literature without evidence for teratogenicity, although behavioral changes in animal offspring have been noted(4)
- No human long-term outcomes or developmental studies available
- May be appropriate for select patients
- High maternal interest in treatment without NAS sequelae(5)

Naltrexone: Intrapartum and Postpartum

Between 35-38 weeks gestation: women should be transitioned from IM Naltrexone to oral (Naltrexone 50mg po qd)

With the onset of labor, women should hold oral dosing

Precautions allow for postoperative full opioid agonists pain control prn

IM Naltrexone can be resumed postpartum

Breastfeeding

Methadone and buprenorphine are safe for breastfeeding (<1% of maternal opioid intake transmitted to breastmilk) (1)

*American Academy of Pediatrics (AAP), the American College of Obstetricians and Gynecologists (ACOG), and the Academy of Breastfeeding Medicine (ABM) all support breastfeeding for women on opioid pharmacotherapy

- Maternal benefits: increased oxytocin levels are linked to lower stress, increased maternal-infant bonding both lower the risk of postpartum relapse (2)
- Newborn benefits: reduction in pharmacologic treatment for NAS, shorter hospital stays (2)

Contraception

- All postpartum women should be offered reliable contraception
- Contraception options should be reviewed/ discussed during prenatal care with a set plan prior hospital discharge
- Access to long-acting reversible contraceptive (LARC) options should be readily available

Stimulant Use Disorder and Pregnancy[16]

- Rates range from 0.7% to 4.8% of pregnancies
- Stopping use at ANY time during pregnancy improves outcomes
- Stimulants transmit to breast milk, so breast feeding not advised

- Increased risk of
  - Premature delivery (37.3 v 39.1)[16]
  - lower birth rate (3103g v 3321g)[16]
  - Placental abruption[17]
  - Cardiac & brain abnormalities[17]
  - Fetal death[17]
  - Neurological problems[17]
    - Decreased arousal
    - Increased stress
    - Attention impairments

Currently Supported Treatment for Stimulant Use Disorders

- Contingency management unanimously (5 systematic reviews and meta-analyses) found to have best evidence of effectiveness.
- Other approaches with lesser but clear evidence of support: Cognitive Behavioral Therapy (CBT) and Community Reinforcement Approach (CRA)
- Approach with evidence for treatment of a broad variety of SUD: Motivational Interviewing (MI).
- Approach with recent studies showing benefit to people who use methamphetamine: Physical Exercise (PE). (eg. Rawson et al, 2015)

Harm Reduction for Stimulant Use

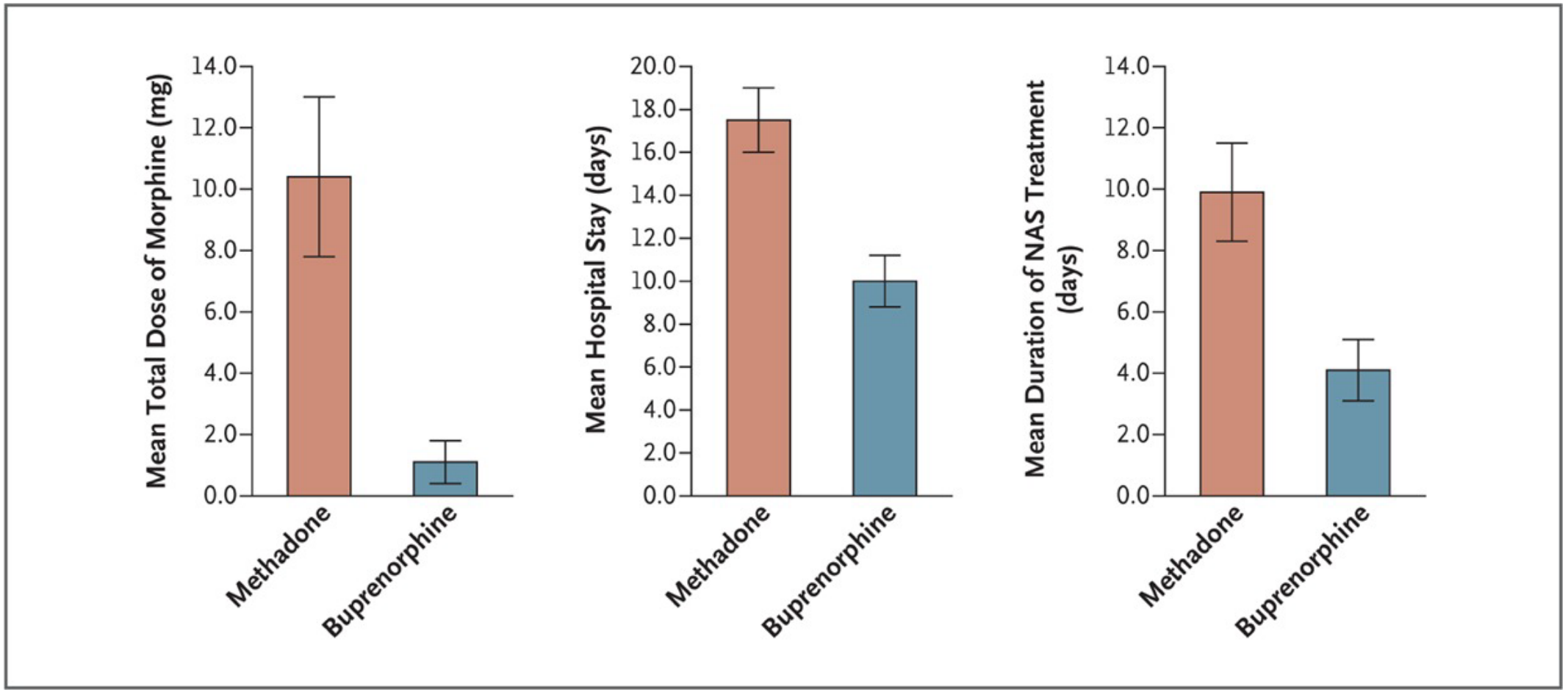
- Information about medical and psychiatric effects of meth
- Overdose Education (fentanyl) & Naloxone Distribution
- Syringe Exchanges
- Quiet rooms and wash-up/shower rooms
- Condoms/safe sex education
- Topical antibiotic creams and ointments for injection sites
- Water (dehydration)
- Tooth paste/tooth brush

Neonatal Abstinence Syndrome: Methadone and Buprenorphine

Maternal Opioid Treatment Human Experimental Research (MOTHER): NEJM 12/2010

- Double-blind, double-dummy, flexible-dosing, parallel-group clinical trial
- Neonatal Outcomes: Comparing MMT (n=73) and Buprenorphine (n=58)

Neonatal Abstinence Syndrome: Methadone and Buprenorphine



Finnegan Neonatal Abstinence Scoring System

Escalation of dose

Two NAS scores in ≥ Category I, despite rescoring, warrants escalation of treatment :

Category	Score	New Morphine Dose
I	8-12	Previous dose+0.05ml
II	13-16	Previous dose+0.10ml
III	17-20	Previous dose+0.15ml
IV	21-24	Previous dose+0.20ml
V	≥25	Previous dose+0.25ml

*Escalation dose should correspond to the highest score

**Consider* NICU admission if infant requires greater than 0.20mg (0.5ml) of morphine (0.4mg/ml) every 3 hours in order to maintain scores in Category 0.

* Infants who appear somnolent and/or are difficult to arouse warrant transfer to the NICU.

Adapted from L. Jansson, 2009

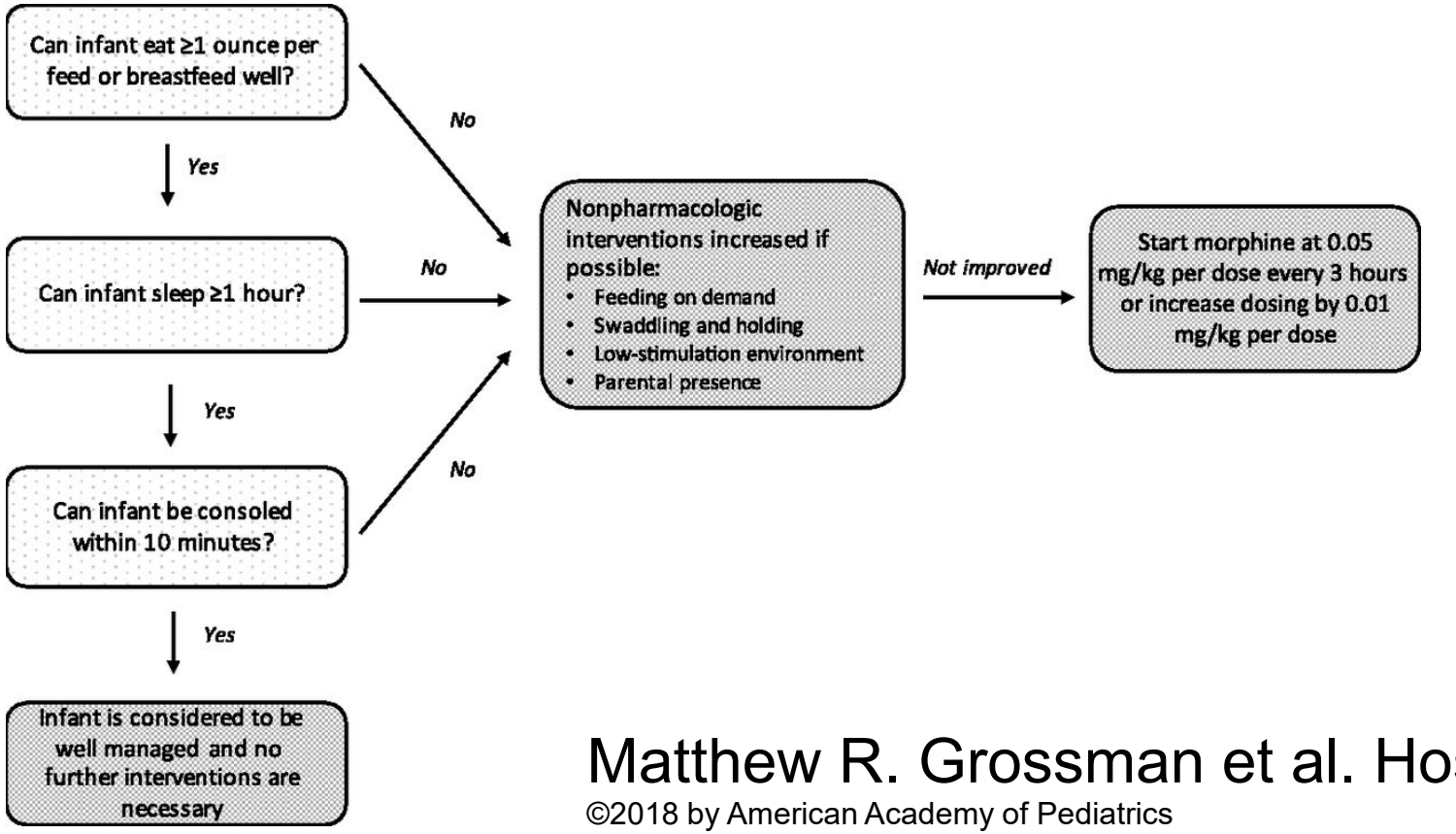
SYSTEMS	SIGNS AND SYMPTOMS	SCORE	AM 2	4	6	8	10	12	PM 2	4	6	8	10	12	DAILY WT.
CENTRAL NERVOUS SYSTEM DISTURBANCES	High Pitched Cry	2													
	Continuous High Pitched Cry	3													
	Sleeps < 1 Hour After Feeding	3													
	Sleeps < 2 Hours After Feeding	2													
	Hyperactive Moro Reflex	2													
	Markedly Hyperactive Moro Reflex	3													
	Mild Tremors Disturbed	2													
	Moderate Severe Tremors Disturbed	3													
	Mild Tremors Undisturbed	1													
	Moderate Severe Tremors Undisturbed	2													
	Increased Muscle Tone	2													
	Excoriation (specify area) _____	1													
	Myoclonic Jerks	3													
	Generalized Convulsions	3													
METABOLIC VASOMOTOR/ RESPIRATORY DISTURBANCES	Sweating	1													
	Fever < 101°F (39.3°C)	1													
	Fever > 101°F (39.3°C)	2													
	Frequent Yawning (> 3-4 times/interval)	1													
	Mottling	1													
	Nasal Stuffiness	1													
	Sneezing (> 3-4 times/interval)	1													
	Nasal Flaring	2													
	Respiratory Rate > 60/min	1													
	Respiration Rate > 60/min with Retractions	2													
GASTROINTESTINAL DISTURBANCES	Excessive Sucking	1													
	Poor Feeding	2													
	Regurgitation	2													
	Projectile Vomiting	3													
	Loose Stools	2													
	Watery Stools	3													
SUMMARY	TOTAL SCORE														
	SCORER'S INITIALS														
	STATUS OF THERAPY														

Adapted from Finnegan L. Neonatal abstinence syndrome: assessment and pharmacotherapy. Neonatal Therapy: An update. F.F. Rubaltelli and B. Granati, editors. Elsevier Science Publishers B.V. (Biomedical Division). 1988: 123-146

Eat/Sleep/Console

- Significantly less treatment with morphine compared to traditional Finnegan NAS Scoring System (12% vs 60%)
- An effective approach that limits pharmacologic treatment (morphine increase on 3% of days vs 25% of days)
- May lead to substantial decrease in length of stay (5.9 days vs 22.5 days) (Grossman, et al)

Eat/Sleep/Console Assessment



Matthew R. Grossman et al. Hospital Pediatrics 2018;8:1-6

Patient Education

Inform	Educate	Prepare
Even when OUD is well managed on pharmacotherapy, NAS can and does occur.	Educate patients on what to expect after delivery.	Have a plan for contact with your office in the event of a child welfare case

Case Study: Amber
"Born Addicted to Drugs"

- Mom injected high doses 4-7 times per day throughout pregnancy
- Mom had 3 hospital admissions for overdose and 1 for skin infection during pregnancy
- Alternately lethargic and irritable, fed poorly
- Required ICU placement with medical management q 2 hours for first 4 days of life

Hospital Discharge

- Mom no longer injecting, managed on oral pharmacotherapy
- Encouraged to breast feed, but not yet established

Amber, Age 2

- Mom remains in recovery, but dad is injecting multiple times per day
- At 2.5 years, Amber finds a syringe at home and injects herself, requiring an ED visit

What it means to acknowledge SUD as a Chronic Disease

Questions?

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