Medication Treatment of OUD in Pregnancy

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Opioid Use Disorder in Pregnancy

Poor fetal growth
Preterm birth
Low birth weight
Preterm premature rupture of membranes
Antepartum hemorrhage
Maternal infections

Perinatal substance abuse and the drug-exposed neonate. Bennett AD Adv Nurse Pract. 1999 May;7(5):32-6
The use of narcotics and street drugs during pregnancy.Lindsay MK, Burnett E. Clin Obstet Gynecol. 2013 Mar;56(1):133-41

Opioids in Pregnancy

Poor fetal growth
Preterm birth
Low birth weight
Preterm premature rupture of membranes
Antepartum hemorrhage
Maternal infections
Use of other illicit drugs
Poor prenatal care
Social adversity

Many of these adverse effects are felt to be secondary to poor health behaviors combined with repeated episodes of in utero opioid withdrawal.

Perinatal substance abuse and the drug-exposed neonate. Bennett AD Adv Nurse Pract. 1999 May;7(5):32-6
The use of narcotics and street drugs during pregnancy.Lindsay MK, Burnett E. Clin Obstet Gynecol. 2013 Mar;56(1):133-41

Opioid Use Disorder in Pregnancy

Opioid Withdrawal

Early	Severe	Fetal
Agitation Anxiety Muscle aches Increased tearing Insomnia Runny nose Sweating Yawning	Abdominal cramping Diarrhea Dilated pupils Goose bumps Nausea Vomiting	increased movements passage of meconium bradycardia miscarriage preterm delivery intra-uterine fetal demise

Am J Obstet Gynecol 1985 Feb 15; 151(4)441-4
Precipitated Opiate Withdrawal In Uteruo Umans JG

Opioid Use Disorder in Pregnancy

Methadone and buprenorphine treatment are the standards of care.

Leading to improved obstetrical outcomes, approaching population norms.

Opioid Use Disorder in Pregnancy

Methadone Treatment
leads to improved perinatal outcomes compared to women who continue active use

The dilemma of methadone / buprenorphine in pregnancy is we have to accept that opioid use disorder is a real problem that we can neither wish nor will away.

Narcotic Dependence in Pregnancy. Methadone maintenance compared to street drugs
JAMA 1976 Mar 15; 235(11)1121-4 Stimmel B, Adamsons K

Opioid Use Disorder in Pregnancy

Methadone Treatment

Daily observed dosing at a treatment program

Typical dose of 80 - 120 mg daily has been shown to block heroin induced euphoria

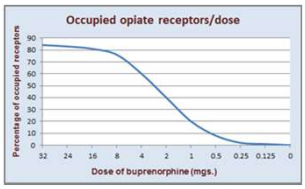
Increased metabolism in pregnancy typically leads to need for dose increase in early pregnancy and again in early 3rd trimester.

Dose may need to be reduced postpartum.

Changes in methadone maintenance therapy during and after pregnancy
J Subst Abuse Treat 2011; 41: 347–353. Albright B

Opioid Use Disorder in Pregnancy

Buprenorphine Treatment



Dose typically ranges from 4 to 24 mg daily

Opioid Use Disorder in Pregnancy

Buprenorphine Treatment

Suboxone (buprenorphine / naloxone) vs
Subutex (buprenorphine mono)

Finding a prescriber

Sharing / Diverting

Doesn't work as well as methadone for some patients

Prenatal Care

A welcoming non-judgemental environment
especially for those with the least prenatal care
or the highest risk pregnancies

preposterously, ridiculously nice

Patient reassurance & working with family members
to build support for methadone / buprenorphine

Monitoring for stable recovery & safe (sober) housing.

Preparing for child welfare evaluation.

Opioid Use Disorder in Pregnancy

Neonatal Abstinence Syndrome

Treated with controlled wean in the hospital

No known short term or long term harms

Opioid Use Disorder in Pregnancy

Neonatal Abstinence Syndrome

Traditionally lasts
3 weeks for moms on methadone,
less for moms on buprenorphine

Why not detox?

Over the past 20 years approximately 500 patients have been documented to undertake medically assisted withdrawal during all trimesters of pregnancy.

No fetal losses attributed to medically assisted withdrawal were observed, although monitoring protocols were inconsistent across the series.

Fetal safety alone should not be a barrier to offering women medically assisted withdrawal during pregnancy.

Medically Assisted Withdrawal (Detoxification): Considering the Mother-Infant Dyad. Jones HE, et al J Addict Med. 2017 Jan 11

Why not detox?

Relapse is the typical outcome.

These were all case series, not randomized data. Quality of data reported is concerning.

No study of medically assisted withdrawal has examined maternal outcomes into the postpartum period, a particularly vulnerable time for relapse.

The most important variable in the ability to retain custodial care of the newborn is relapse.

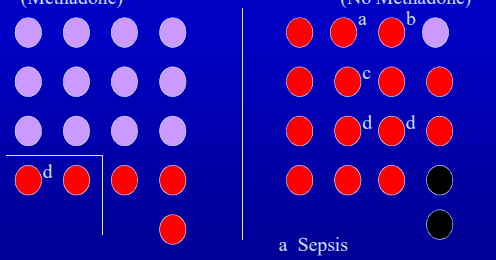
Medically Assisted Withdrawal (Detoxification): Considering the Mother-Infant Dyad. Jones HE, et al J Addict Med. 2017 Jan 11

Swedish Methadone Study

After 2 Years

Experimental Group (Methadone)

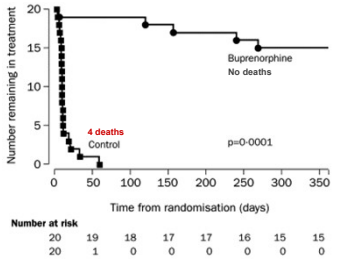
Control Group (No Methadone)



a Sepsis
b Sepsis and Endocarditis
c Leg Amputation
d In Prison

Gunne & Gronbladh, 1981

Buprenorphine



40 patients randomly allocated either to daily 16 mg buprenorphine (supervised daily administration for a least 6 months, possible take-home doses thereafter) or a tapered 6 day regimen of buprenorphine, thereafter followed by placebo.

All patients participated in cognitive-behavioural group therapy to prevent relapse, weekly individual counselling sessions, and submitted thrice weekly supervised urine samples for analysis to detect illicit drug use.

1-year retention and social function after buprenorphine-assisted relapse prevention treatment for heroin dependence in Sweden: a randomised, placebo-controlled trial. Kakko J Lancet. 2003 Feb 22;361(9358):662-8.

American College of Obstetricians and Gynecologists

Committee Opinion 2016

When opioid maintenance treatment is available, medically supervised withdrawal should be discouraged during pregnancy.

ACOG Committee Opinion No. 524: Opioid abuse, dependence, and addiction in pregnancy. Obstet Gynecol. 2012 May;119(5):1070-6

Postpartum Support for Mother-Baby Dyad

Breastfeeding should be encouraged.

Breastfeeding has been shown to decrease severity and duration of neonatal abstinence.

Engaging and supporting mothers in providing care for their baby through the treatment of Neonatal Abstinence will decrease length of stays and improve maternal bonding.

Hospital policies and attitudes may create barriers to successful lactation and parenting.

Question: is breastfeeding useful in the management of neonatal abstinence syndrome? Lefevere J, Allegaert K Arch Dis Child. 2015 Apr;100(4):414-5.Adv Neonatal Care. 2016 Aug 25.
Impact of Parental Presence at Infants' Bedside on Neonatal Abstinence Syndrome. Howard MB, et al Hosp Pediatr. 2017 Feb;7(2):63-69
Rooming-in care for infants of opioid-dependent mothers: Implementation and evaluation at a tertiary care hospital. Newman A, et al Can Fam Physician. 2015 Dec;61(12):e555-61.
Revision of Breastfeeding Guidelines in the Setting of Maternal Opioid Use Disorder: One Institution's Experience. Wachman EM et al, J Hum Lact. 2016 May;32(2):382-7

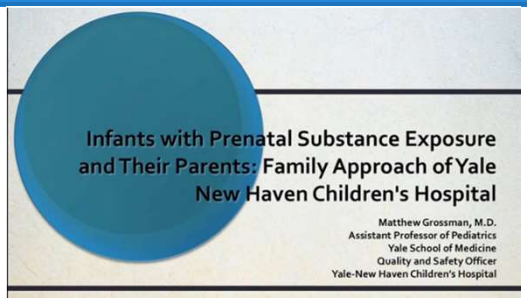
Supporting Breastfeeding

The most effective intervention to promote breastfeeding among mothers on opioid maintenance treatment is rooming-in.

Breastfeeding rates were
62.5% in the rooming-in group compared to
7.9% for the historical cohort and 11.1% for the concurrent cohort.

Breastfeeding among Mothers on Opioid Maintenance Treatment: A Literature Review. Tsai LC, Doan TJ J Hum Lact. 2016 Aug;32(3):521-9

Transforming NAS Care



https://www.youtube.com/watch?v=7epcyi2mafY

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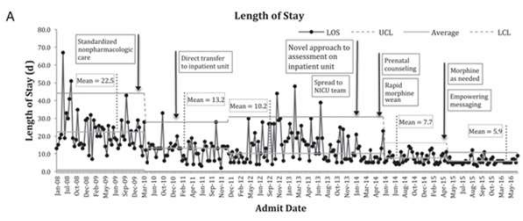
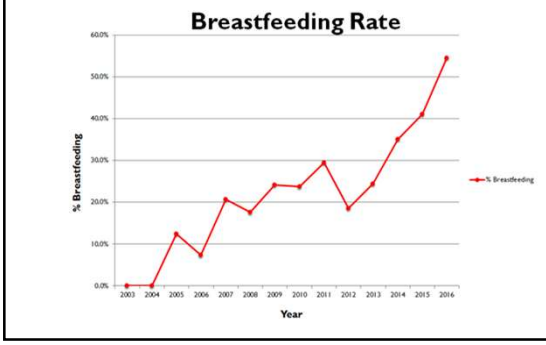


Transforming NAS Care



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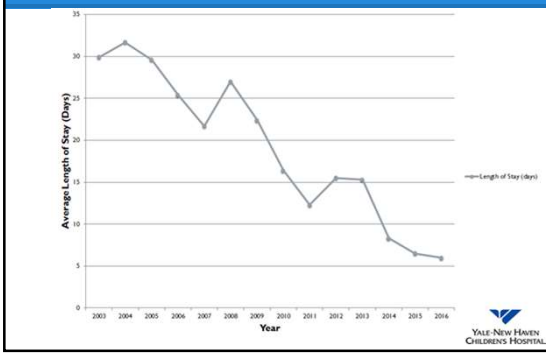

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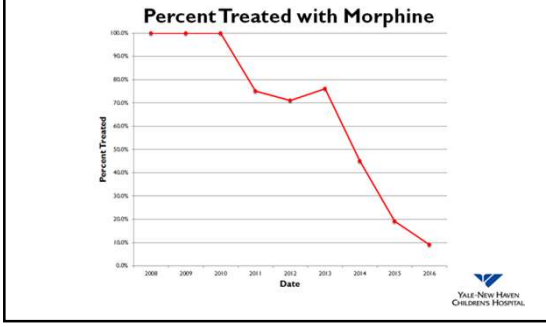

What would you say?

Sarah comes in for a first prenatal visit at “about 4 months”.

She delivered her first child 2 years ago at 37 weeks with no prenatal care. She was actively using at the time and the child was removed by CPS.

She started buprenorphine a few months ago. She is living with a sober aunt. Her boyfriend is using, but he lives with his mother.

“I really don’t want to lose this baby. Can you help me?”

What would you say?

Sunny in 27 years old and 33 weeks pregnant. She came to hospital “cramping” 8 days ago and was started on methadone. Her last baby was born at 34 weeks, 5 lbs 14 oz. Her cervical exam is 2 cm / 50% and fortunately hasn’t changed.

She is now stable at 70 mg qAM and a methadone clinic appt is set up for tomorrow.

“Thanks for everything you’ve done, but I can’t be on methadone. I don’t want my baby to be *born addicted*”.

What would you say?

Beth is a 38 year old on MAT who had delivered her 3rd baby the day before yesterday. It was a difficult induction for pre-eclampsia at 38 weeks and she was on magnesium and didn’t have much family support.

She really wants to breastfeed but has been pretty frustrated. She has CPS family meeting scheduled tomorrow that is worrying her.

“Thank you for helping me. The day shift nurses are so mean. I can tell they don’t really want me to breastfeed.”

Breastfeeding among Mothers on Opioid Maintenance Treatment: A Literature Review. Tsai LC, Doan TJ J Hum Lact. 2016 Aug;32(3):521-9

What would you say?

Carla is getting ready to take take her baby home from the nursery after at 9 day treatment for NAS.

She started on the methadone program when she was 14 weeks and did pretty well. She had a 5 day relapse at 28 weeks but did better when they raised her methadone from 75 to 90 mg.

The delivery went great and her family was very supportive. Carla has been very attentive to the baby but feeling guilty about the NAS.

"I promised my husband I would stop the methadone after the baby was born, but now I'm afraid… I mean what if I just start using again? What do you think I should do?"

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OB Triage

Patients may present in triage in acute withdrawal.

Acute withdrawal can be associated with preterm contractions, fetal bradycardia and fetal demise.

Withdrawal can be treated whatever short acting opioid the provider is familiar with in the hospital setting.

Methadone or buprenorphine can be started during a short hospitalization.

Precipitated Opiate Withdrawal In Utero Umans JG, Szeto HH Am J Obstet Gynecol 1985 Feb 15; 151(4)441-4
Fetal stress from methadone withdrawal Zuspan FP, Gumpel JA Am J Obstet Gynecol 1975 M1; 122(1)43-6

Opioids and the Law

Harrison Narcotic Act 1914

A clause applying to doctors allowed distribution "in the course of his professional practice only." This clause was interpreted after 1917 to mean that a doctor could not prescribe opiates to an addict, since addiction was not considered a disease. A number of doctors were arrested and some were imprisoned. The medical profession quickly learned not to supply opiates to addicts.

Exceptions

- Opioid Treatment Programs (aka methadone clinics)
- DATA 2000 waivered prescribers
- Hospitalized patients

https://en.wikipedia.org/wiki/Harrison_Narcotics_Tax_Act

Opioids and the Law

Title 21 Code of Federal Regulations
PART 1306 — PRESCRIPTIONS
§1306.07 Administering or dispensing of narcotic drugs.

(c) This section is not intended to impose any limitations on a physician or authorized hospital staff to administer or dispense narcotic drugs in a hospital to maintain or detoxify a person as an incidental adjunct to medical or surgical treatment of conditions other than addiction.

https://www.deadiversion.usdoj.gov/21cfr/cfr/1306/1306_07.htm

Opioid Withdrawal

Early	Severe	Fetal
Agitation Anxiety Insomnia Restlessness Muscle aches Watery eyes Runny nose Sweating Yawning Nausea	Abdominal cramping Diarrhea Vomiting Dilated pupils Goose bumps Jerking "kicking"	increased movements passage of meconium bradycardia miscarriage preterm delivery intra-uterine fetal demise (stillbirth)

Am J Obstet Gynecol 1985 Feb 15; 151(4)441-4 Precipitated Opiate Withdrawal In Uteruo Umans JG, Szeto HH

Starting Methadone

- ➔ Half life is ~ 24 hours (18-36 hours)
- ➔ 3-5 half lives for serum levels to equilibrate
- ➔ Time to peak effect: 4 - 6 hours
- ➔ One time “Safe Dose” 30 mg for almost all patients

Starting Methadone

Protocol 1: - start methadone cautiously - covering with short acting opioids

Methadone 10 mg TID/QID “hold if resp rate below 12”
Add’l short acting opioids as needed for pain or withdrawal
PRN vs PCA vs Scheduled
Increase methadone doses every 2-3 days
After 3-7 days - methadone only

Protocol 2: - start methadone aggressively -

Methadone initial dose 10, 20 or 30 mg once
Methadone 10 mg q4-6h prn withdrawal sx
Increase scheduled AM dose 10-20 mg each day
until AM dose is adequate for symptom control.

Starting Buprenorphine

Risk of precipitated withdrawal.

Patients should be in mild withdrawal
e.g. COWS score of 8

Buprenorphine 2 mg sublingual q2 hours
until symptoms are controlled.

May start with 4 mg, esp if patient has more severe withdrawal.

Typical daily dosing is 4-16 mg either qAM or divided BID,
some will need 24 mg/day

Getting ready for Discharge

Coordination with Methadone Clinic

Coordination with Buprenorphine prescriber

Once daily vs split dosing

Avoid benzodiazepines

Post Cesarean Pain Management

continue current methadone or buprenorphine maintenance medication does not prevent pain
opioids are *less* effective but not *in*effective

short acting opiates should be used for pain relief
very high doses may be needed, typically
2 - 5 times normal dosing

hydromorphone PCA	hydromorphone oral	
0.6 - 1 mg dose q 8 minutes no maximum dose nurse bolus 1-2 mg	2-6 mg po q4h scheduled and additional 2-6 mg q4h prn pain	Discharge medications: for 3 days and rarely for >5-7 days

Post-cesarean pain management of patients maintained on methadone or buprenorphine.
Jones HE, Johnson RE, Milio L. Am J Addict. 2006 May-Jun;15(3):258-9.
Intrapartum and postpartum analgesia for women maintained on buprenorphine during pregnancy.
Meyer M et al . Eur J Pain. 2010 Oct;14(9):939-43

Post Cesarean Pain Management

Maximize non opioid medications

Acetaminophen, scheduled
NSAID, scheduled - whenever safe
Duramorph (epidural or intrathecal morphine)

Consider
Prolonged epidural
Transversus Abdominis Plane (TAP) block
Gabapentin 200 mg TID

Avoid benzodiazepines

Gabapentin improves postcesarean delivery pain management: a randomized, placebo-controlled trial. Moore A, et al Anesth Analg. 2011 Jan;112(1):167-73
A single preoperative dose of gabapentin does not improve postcesarean delivery pain management: a randomized, double-blind, placebo-controlled dose-finding trial.
Short J et al. Anesth Analg. 2012 Dec;115(6):1336-42.
The effect of gabapentin versus intrathecal fentanyl on postoperative pain and morphine consumption in cesarean delivery: a prospective, randomized, double-blind study.
Najafi Anaraki A, Mirzaei K. Arch Gynecol Obstet. 2014 Jul;290(1):47-52
Transversus abdominis plane block reduces postoperative pain intensity and analgesic consumption in elective cesarean delivery under general anesthesia.
Eslamian L, et al. J Anesth. 2012 Jun;26(3):334-8.
Transversus abdominis plane block does not improve early or late pain outcomes after Cesarean delivery: a randomized controlled trial. McKeen DM et al. Can J Anaesth. 2014 Jul;61(7):631-40

Post Cesarean Pain Management

Converting from PCA to oral opioid

PCA is typically continued 12-24 hours
It is easier to stop when trusted clinicians are available
It is important to let patient know what to expect
Give first dose of oral medication, 1 hour before stopping PCA

Review total PCA over last 8 hours
Convert to oral equivalent
Oral hydromorphone = parenteral hydromorphone x 4-5
Reduce ~ 50% (but remember you may need to increase)
Divided q3 or q4hrs for scheduled dosing
Consider option of add'l prn opioid if needed.

Post Cesarean Pain Management

Patients may discharge with high doses of opioid medications.

However, the number of days used should not exceed that of other patients.

Opioid pain medications will not lead to relapse as long as maintenance methadone or buprenorphine is continued.

To avoid discharging patients with a large number of pills, more frequent follow up (every 2-3 days while on pain medications) is ideal.