Together for NOWS

A Collaborative Approach to Supporting the Birthing Person-Infant Dyad Affected by Neonatal Opioid Withdrawal Syndrome

Ryan Jackman, MD and Christine Gold, MD

OBJECTIVES

By the end of this presentation, participants will be able to:

1) Identify ways to support a birthing person prenatally in anticipation of NOWS

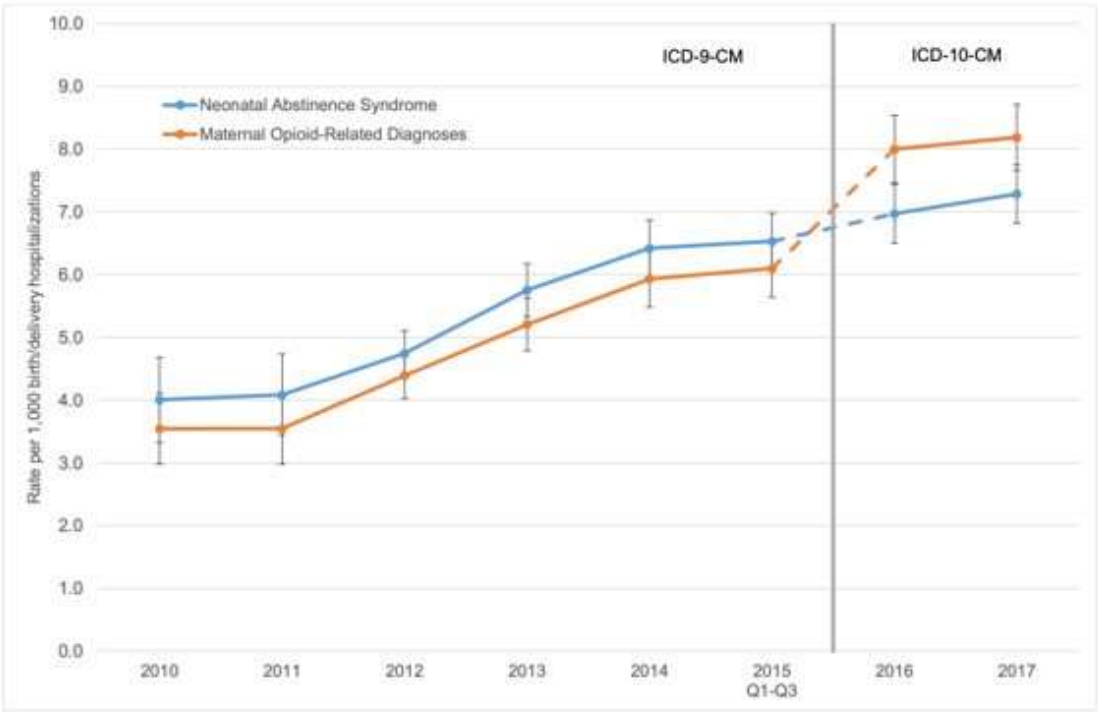
2) Utilize components of Eat, Sleep, Console management for both the inpatient and outpatient settings

3) Distinguish between supportive and pharmacologic care strategies for neonates with NOWS

4) Evaluate improvement opportunities for their own institutions to support birthing person-infant dyads across the prenatal, intrapartum, and postpartum journey

Paying Attention NOWS?

eFigure 1. Neonatal Abstinence Syndrome and Maternal Opioid-Related Diagnoses Rates per 1,000, 2010-2017



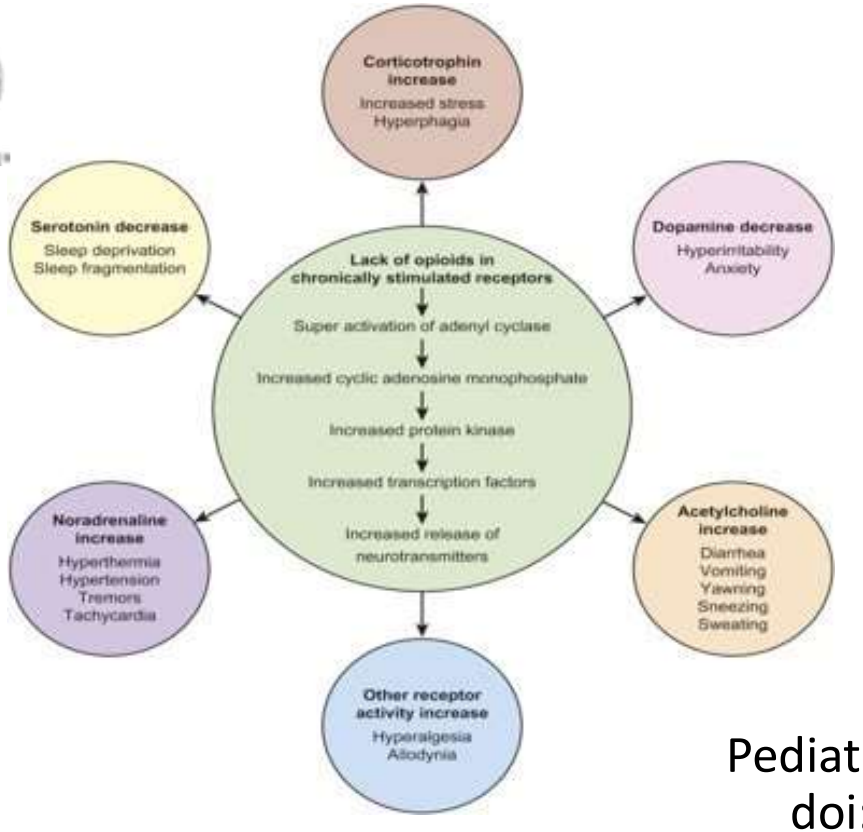
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, National Inpatient Sample, 2010-2017

Legend: Rates of Neonatal Abstinence Syndrome per 1,000 birth hospitalizations (blue) and Maternal Opioid-Related Diagnoses per 1,000 delivery hospitalizations (orange) are shown from 2010-2017 with a discontinuity for *ICD-10-CM* coding implemented in the fourth quarter of 2015, which expands maternal opioid-related diagnoses to include new codes for long-term use of opioid medications and unspecified opioid use in addition to opioid dependence and abuse.

Biology of NOWS

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®



Pediatrics. 2014;134(2):e547-e561.
doi:10.1542/peds.2013-3524

Opportunities

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

Pre-Pregnancy

Public health systems to prevent opioid dependency (e.g., prescription drug monitoring programs)

Access to treatment and to medical care before pregnancy to optimize preconception health

Decreasing proportion of unplanned pregnancies among opioid dependent women by improving access to effective contraception

Prenatal

Identification of substance use disorders in pregnancy

Decrease overprescribing in pregnancy

Evaluate co-morbidities in pregnancy (e.g. infectious, psychiatric)

Identify targets to reduce risk (harm reduction) for mother and infant

Begin crafting "Plans of Safe Care"

BIRTH

Neonatal

Improve identification of at-risk infants

Improve care standardization and decrease variability

Ensure safe, coordinated transition home

Childhood & Beyond

Decrease readmission risk

Understand long-term risks

Engage in early intervention services, home nurse vistation

Find modifiable risks (e.g. long medication tapers and risk of developmental delay)

Hepatitis C follow-up screening for exposed infants and treatment for mothers

Pediatrics. 2020;146(5). doi:10.1542/peds.2020-029074

Objectives

By the end of this presentation, participants will be able to:

1)Identify ways to support a birthing person prenatally in anticipation of NOWS

2)Utilize components of Eat, Sleep, Console management for both the inpatient and outpatient settings

3)Distinguish between supportive and pharmacologic care strategies for neonates with NOWS

4)Evaluate improvement opportunities for their own institutions to support birthing person-infant dyads across the prenatal, intrapartum, and postpartum journey

Prenatal Education Pearls

Preparing for NOWS

Educate the birthing person, obstetric team, delivering team, and pediatric team that NOWS is:

- An expected outcome and is not a sign of uncontrolled opioid use disorder
- Treatable and limited in nature
  - Majority of cases do not require NICU or medication management
- Not dose dependent
- Influenced by multiple factors including, genetics, gestational age, birth weight, and exposure to other substances

Prenatal Support for NOWS

Antepartum

- Actively identify the individual's needs and show them where you and community partners can support them
  - Prenatal care
  - Mental health
  - SUD treatment including MOUD
  - smoking cessation
  - IPV screening
  - Insurance/financial
  - Housing including sober living
  - Peer navigator program or case management
- Coordinate screening for infectious diseases
  - HIV, Hepatitis B, Hepatitis C, Syphilis

Prenatal Support for NOWS

Antepartum

- Answer questions about substance use and provide education including the risks of cannabis
- Provide the patient with Naloxone (Narcan®)
- Obtain consent for:
  - Birthing hospital
  - MOUD provider clinic
  - DHS/PO/Insurance Case Worker
- Role for urine drug testing in pregnancy
- Antenatal pediatric consult
- Discuss management plan if on Methadone, Buprenorphine, or Naltrexone
  - Antenatal anesthesia consult for pain

Prenatal Support for NOWS

Third trimester

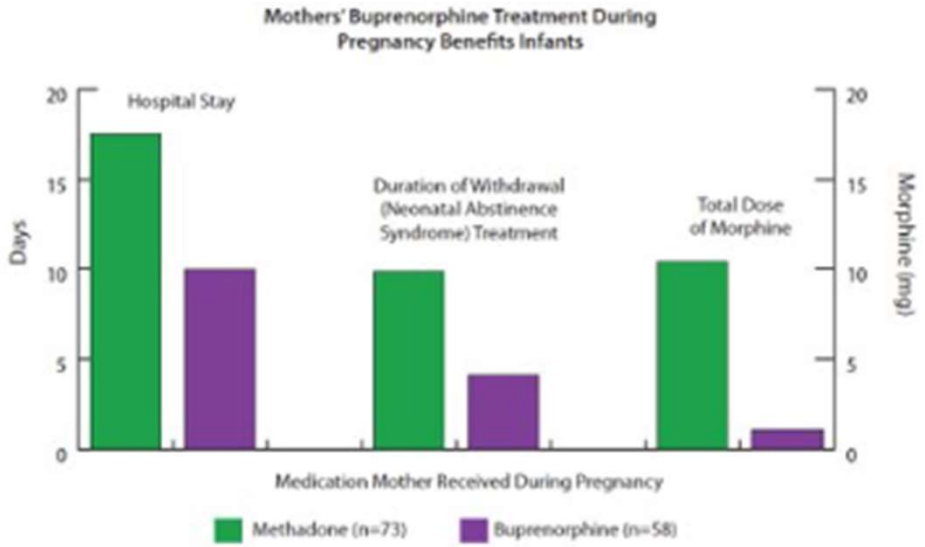
- Repeat infectious disease labs as recommended by ACOG
  - HIV, Hepatitis B, Hepatitis C, Gonorrhea, Chlamydia, Syphilis
- Re-review birth hospitalization planning and expectations
  - Policies regarding urine drug testing, social work consult, and potential for CPS referral
  - Safe feeding plan per birthing person's goals
  - Expectations for NOWS in the newborn, specifics of management at birth institution
  - Identify support person(s) and role both during the birth and postpartum
- Outreach to care team members as necessary

MOUD Comparison

Preparing for NOWS

"Women with OUD who become pregnant should have choices when it comes to medication-assisted treatment. With maternal use of other drugs being the most important driver of more severe [NOWS], women's ability to avoid such use is critical. Some may need methadone to alleviate cravings and avoid relapse, stay in treatment, and continue to receive obstetric and psychiatric care. One size does not fit all."

- Dr. Lauren Jansson

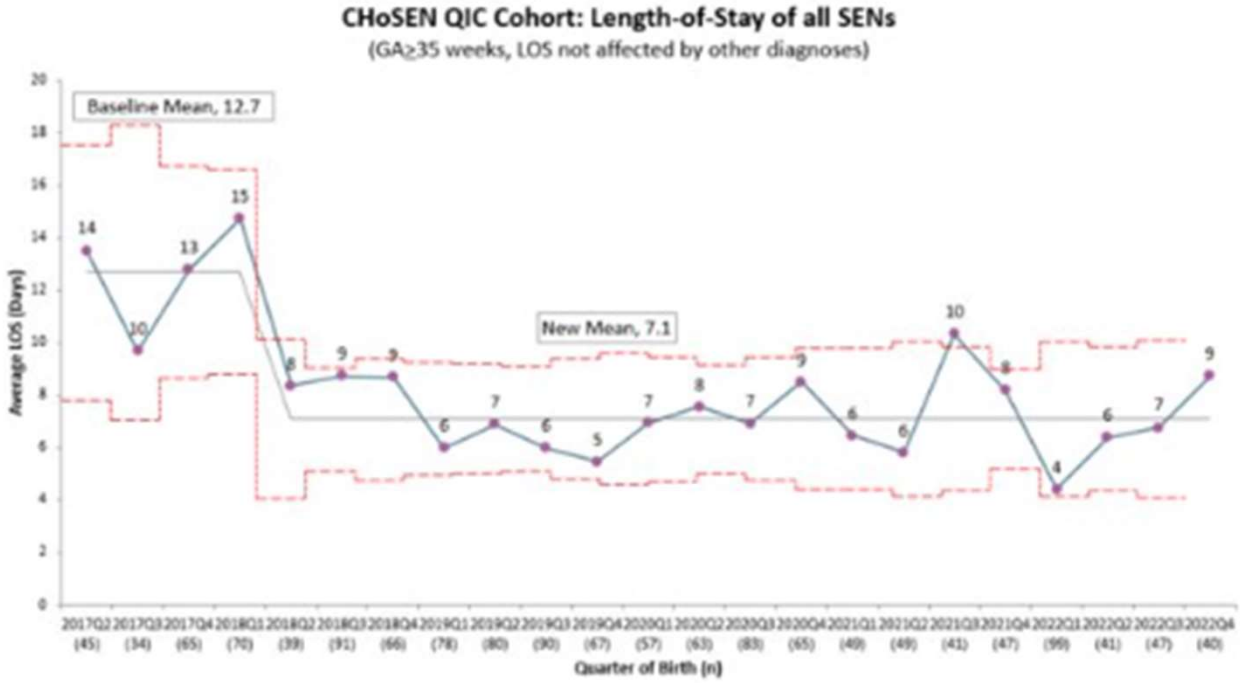


Pre Eat, Sleep, Console

NIDA. 2012, July 6. Buprenorphine During Pregnancy Reduces Neonate Distress. Retrieved from http://archives.nida.nih.gov/news-events/nida-notes/2012/07/buprenorphine-during-pregnancy-reduces-neonate-distress on 2023, March 29

Eat Sleep Console

Length of Stay Trends from CHoSEN QIc



Other Associated Influences

Preparing for NOWS

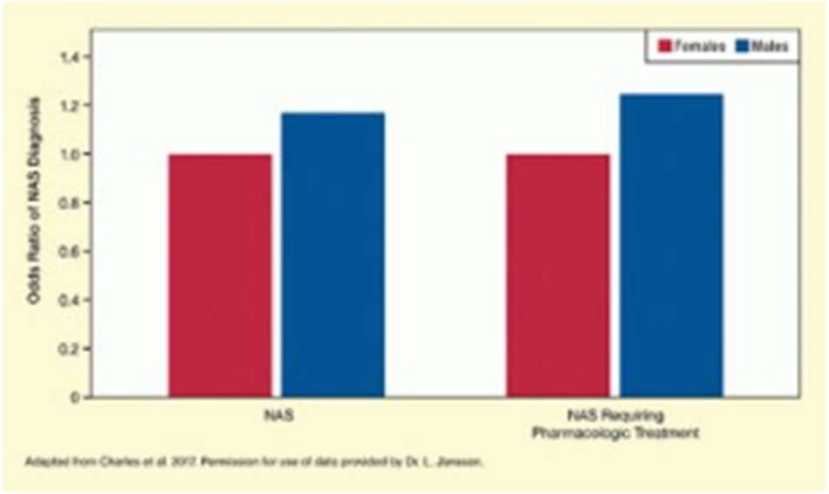


Table 4

Negative binomial regression of NAS severity on maternal buprenorphine dose adjusted for maternal risk factors

Predictor	IRR	95% CI	p value
Buprenorphine dose	1.09	[0.90, 1.20]	0.11
Illicit substance exposure	0.11	[0.03, 0.43]	0.002
Years of regular opioid use	1.00	[0.93, 1.30]	0.26
Maternal age	1.00	[0.86, 1.18]	0.96

Open in a separate window

Notes: IRR= incidence rate ratio; the overdispersion factor parameter estimate was 3.53. Likelihood ratio chi-square test ($\chi 2$= 12.62, df=4, p=0.01) indicated good model fit.

Charles, M.K., Cooper, W.O., Jansson, L.M., et al. Male sex associated with increased risk of neonatal abstinence syndrome. *Hosp Pediatr* 7(6):328-334, 2017.

Jansson, L.M., Velez, M.L., McConnell, K., et al. Maternal buprenorphine treatment and infant outcome. *Drug Alcohol Depend* 180:56-61, 2017.

Onset, Frequency, and Duration

Preparing for NOWS

TABLE 1 Onset, Duration, and Frequency of NAS Caused by Various Substances

Drug	Onset, h	Frequency, %	Duration, d
Opioids			
Heroin	24–48	40–80[27]	8–10
Methadone	48–72	13–94[37]	Up to 30 or more
Buprenorphine	36–60	22–67[46,48]	Up to 28 or more
Prescription opioid medications	36–72	5–20[56,60]	10–30
Nonopioids			
SSRIs	24–48	20–30[64]	2–6
TCAs	24–48	20–50[64]	2–6
Methamphetamines	24	2–49[101]	7–10
Inhalants	24–48	48[70]	2–7

Pediatrics. 2014;134(2):e547-e561. doi:10.1542/peds.2013-3524

Support for NOWS

Birth hospitalization

- May request pediatric and anesthesia consults again at admission for management planning
  - Peds consult: discuss management plan, reasons to escalate care to NICU, expected length of stay, medication management
- Confirm completion of infectious disease tests
- Social work consult
- DHS referral only if : Pregnancy affected by substances (not MOUD) and substance use is likely to affect infants safety
- Speak with pediatric team daily regarding newborn's findings of withdrawal and functioning

Support for NOWS

Birth hospitalization

Discharge planning:

- Confirm patient has Narcan (or provide to patient)
- Establish Plan of Safe Care*
- Establish appointments for both the birthing person and newborn postpartum,
  - PCP
  - OB/GYN
  - MOUD Provider
  - Lactation
  - WIC
- Home RN visit at 3 weeks postpartum in some hospitals*
- Early intervention referral

Support for NOWS

ILPQC OUD Clinical Care Checklist

Checklist Element	Dat	Comments
Antepartum Care		
Counsel on MAT for OUD and arrange appropriate referrals		
Counsel and link to behavioral health counseling /recovery support		
Social work consult or navigator who will link patient to care and follow		
Obtain recommended lab testing- • HIV / Hep B / **Hep C** (if positive viral load & genotype) • Serum Creatinine/ Hepatic Function Panel		
Institutional drug testing policies and plan for testing reviewed		
Urine toxicology testing for confirmation and follow up (consent required)		
Discuss Narcan as a lifesaving strategy **and prescribe** for patient / family		
Neonatology/Pediatric consult provided, discuss NAS, engaging mom in non-pharmacologic care of opioid exposed newborn, and plan of safe care.		
DCFS Reporting system reviewed, discuss safe discharge plan for mom/baby		
Screen for alcohol/tobacco/non-prescribed drugs and provide cessation		
Screen for co-morbidities (ie: mental health & domestic violence)		
Consent for obstetric team to communicate with MAT treatment providers		
Consider anesthesia consult to discuss pain control, L&D and postpartum		
Third Trimester		
Repeat recommended labs (HIV/HbsAg/Gc/CT/RPR)		
Ultrasound (Fluid/Growth)		
Urine toxicology with confirmation (consent required), and review policy		
Review safe discharge care plan and DCFS process		
Patient Education: OUD/NAS, participating in non-pharmacologic care of the opioid exposed newborn, including breastfeeding, and rooming in.		
Comprehensive contraceptive counseling provided and documented		
During Delivery Admission		
Social work consult, peds/neonatology consult, (consider) anesthesia		
Verify appointments for support services (MAT/BH / Recovery Services)		
Confirm **Hep C**, HIV, Hep B screening completed		
Discuss Narcan as a lifesaving strategy **and prescribe** for patient / family		
Provide patient education & support for non-pharmacologic care of		
Review plan of safe care including discharge plans for mom/infant		
Schedule early postpartum follow-up visit (within 2 weeks pp)		
Provide contraception or confirm contraception plan		

Objectives

By the end of this presentation, participants will be able to:

1)Identify ways to support a birthing person prenatally in anticipation of NOWS

2)Utilize components of Eat, Sleep, Console management for both the inpatient and outpatient settings

3)Distinguish between supportive and pharmacologic care strategies for neonates with NOWS

4)Evaluate improvement opportunities for their own institutions to support birthing person-infant dyads across the prenatal, intrapartum, and postpartum journey

Eat, Sleep, Console

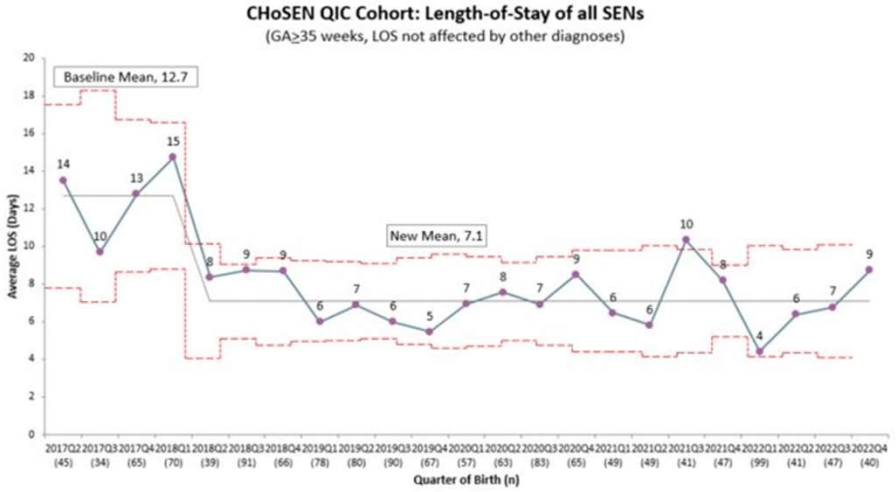
Signs of Withdrawal in a Newborn:

- Jittery
- Fussy
- Poor feeding
- Excess sucking
- Excoriations, skin breakdown
- Loose stools
- High-pitched cry
- Sneezing
- Poor sleep

Eat, Sleep, Console

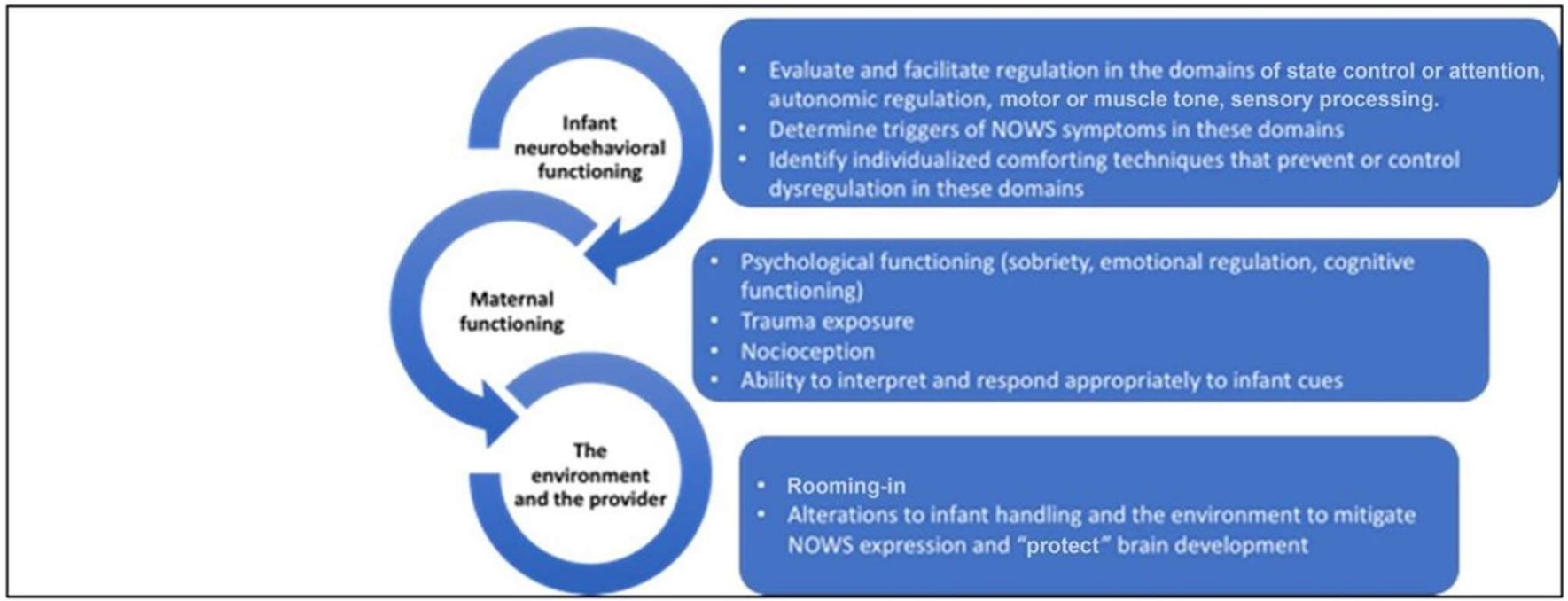
Profound Impact of Three Simple Steps

- Functioning in newborn:
  - Eat – 1 oz or appropriate volume for age
  - Sleep – at least one hour undisturbed
  - Console – can console in 10 minutes when fussy
- ESC scored AFTER baby has fed, every 3-4 hours by staff
- Birthing person is CRUCIAL member of the team to give assessment of baby's state/score.



Eat, Sleep, Console

Be Aware of the Bigger Picture



Nonpharmacologic approaches to NOWS. Adapted from Velez M, Jansson LM. The opioid dependent mother and newborn dyad: non-pharmacologic care. J Addict Med. 2008;2(3):113–120.

Objectives

1)Identify ways to support a birthing person prenatally in anticipation of NOWS

2)Utilize components of Eat, Sleep, Console management for both the inpatient and outpatient settings

3)Distinguish between supportive and pharmacologic care strategies for neonates with NOWS

4)Evaluate improvement opportunities for their own institutions to support birthing person-infant dyads across the prenatal, intrapartum, and postpartum journey

Eat, Sleep, Console

Utilization inpatient and outpatient

Supportive Care (1st line)

- Rooming-in with birthing parent
- Skin to skin
- Quiet room
- Dimly lit room
- Pacifier
- Breast feeding
  - More about soothing than medication in breast milk

Medication management (2nd line)

- Use medications only as needed. Do NOT schedule but in severest of cases
- Often requires transfer off of mother-baby unit
  - NICU
  - Peds Inpatient Unit
- Medication can include morphine, methadone, clonidine, phenobarbital and others

Objectives

1)Identify ways to support a birthing person prenatally in anticipation of NOWS

2)Utilize components of Eat, Sleep, Console management for both the inpatient and outpatient settings

3)Distinguish between supportive and pharmacologic care strategies for neonates with NOWS

4)Evaluate improvement opportunities for their own institutions to support birthing person-infant dyads across the prenatal, intrapartum, and postpartum journey

Improvement Opportunities

Improving care at your home institution

- Establish a checklist of tasks for management of the patient
- Establish a consultation relationship with birthing institution providers
- Identify resource availability in your area
- Create standard method of consent for communication between birthing institutions and your facility
- Integrate Colorado resources into patient care, including peer navigator programs, free Narcan, etc.

Improvement Opportunities

Examples of improvements at UCH

- Antenatal consult by the inpatient pediatric hospitalists
- Contact with outside birthing person provider (with consent)
- Collaboration for safe feeding plans for neonates
- Admission counseling and daily interactions
- Improved toxicology testing policy
- Expected LOS and discharge criteria
- Plan of Safe Care for every dyad
- Warm hand-off to PCP

References

- Hirai, A et al. Neonatal Abstinence Syndrome and Maternal Opioid-Related Diagnoses in the US, 2010-2017. (2021). https://jamanetwork.com/journals/jama/fullarticle/2774834
- Main, Elliot. Create a Prenatal Checklist for Care of Women with Opioid Use disorder. (2020). https://nastoolkit.org/audience/outpatient/category/screening-assessment-level-of-care-determination/best-practice/4#resources
- Patrick, S et al. Neonatal Opioid Withdrawal Syndrome. (2020). https://publications.aap.org/pediatrics/article/146/5/e2020029074/75310/Neonatal-Opioid-Withdrawal-Syndrome?autologincheck=redirected

Questions