Example Guideline

Care of the Newborn with Neonatal Opioid Withdrawal in a Hospital Setting

How to use this guideline

- The purpose of this document is to offer an example of a written hospital guideline from which content can be borrowed and applied to individual hospital guideline templates.
- Not all information needs to be included in a guideline or the body of a guideline. This document includes education and specific treatment options. Teams can use this content and include it in appendices, educational modules, or order sets based on the needs or norms of an organization.

Table of contents:

Purpose	To provide guidelines for the assessment, evaluation, medical management, and placement of newborns born with neonatal opioid withdrawal syndrome (NOWS)
Inclusion criteria	Newborns at risk for NOWS. Newborns of pregnant persons using opioids. Newborns receiving postnatal therapeutic administration of opioids.

Roles and Responsibilities	**provider (MD/DO, OB, MFM, CNM, NNP):**
	• Counsels parent(s) on NOWS. Provides anticipatory guidance. Consistent messaging of NOWS management and ESC care includes:
	  ○ Minimum length of postnatal hospital stay for NOWS identification and management
	  ○ Non-pharmacological management is prioritized and provided best by caregivers
	  ○ Identification of support person(s) to aid in providing 24-hour care of newborn
	• Participates in Team Huddles
	  ○ Covering providers should be present at Team Huddles before beginning PRN medication treatments, beginning scheduled medication treatments, titrating or weaning medication treatments
	
	Nursing:
	• Nurses must have training and be competent in newborn care and in treatment of ESC

Jump to Top	○ Additional training and competencies in bias, stigma, diversity, equity and inclusion (DE&I), trauma-informed care, and neuro-developmental care is strongly recommended • ESC assessments • Nurse is coach, educator, and support for caregivers • Clusters care and assessments when newborn in awake • Organizes and facilitates Team Huddles • Medication administration ○ Nurses administering opioids should be trained to possible side effects, such as respiratory depression, treatment of side effects, and competent in cardiac and saturation monitoring **Parent(s):** *In this document 'parent' may refer to any primary care provider that will be caring for the newborn. This may be the birth parents, adoptive or surrogate parents, foster families, etc.* • Primary care providers • Presence at the bedside should be emphasized by sharing evidence of improved outcomes in a non-judgmental way. Rooming in opportunities should be provided to the maximum extent possible, where available. **Support person(s):** • Trusted members of the parent's family or community, or resources provided by the hospital such as cuddlers, volunteers, or sitters • Presence at the bedside should be emphasized • Provides supportive care to the newborn and the parent to help enable parents to complete ADLs or restorative breaks for parents to ensure parents have the ability to focus on their wellbeing **Care management (social worker, RN case manager):** • Participate in Team Huddles PRN • Identify and discuss patient-specific barriers to providing non-pharmacological care, as able • Connect postpartum person with community partners (i.e., peer recovery mentors, case management, AA meetings, legal advocates, housing and food resources) **Lactation support (IBCLC, RN support):** • Participate in Team Huddles PRN • Support lactation and feeding ○ For reference: Washington Department of Health's Lactation and Substance Use Guidance for Health Care Professionals: https://waportal.org/sites/default/files/2023-08/141-087%20Lactation%20and%20Substance%20Use%20Guidance%20for%20Health%20Care%20Professionals.pdf • Identify and discuss any barriers to chest/breastfeeding **Additional needed inpatient consultations may include:**

	• Nutrition/dietician • Wound consultation • Pharmacology • Utilization Management

General principles for caring for newborns with NOWS
 	
Jump to Top
	General principles
	• NOWS is possible after opioid exposure due to in-utero exposure or postnatal therapeutic administration of opioids.
	• Antepartum treatment of the pregnant person with medications for opioid use disorder (particularly buprenorphine) decreases the likelihood of the infant needing treatment for NOWS after birth when compared to continued illicit opioid use.
	• Newborns with chronic opioid exposure or positive urine toxicology for opioids should be observed in the hospital for at least 72 hours
	  ○ Risk of NOWS does not correlate with dose of opioids
	  ○ Short half-life opioids such as morphine, heroin, oxycodone, and fentanyl may present with symptoms of withdrawal as soon as 24-28 hours after birth
	  ○ Longer half-life opioids such as methadone and buprenorphine may present with symptoms of withdrawal 5-7 days after birth
	  ○ Consideration should be made to extend observation period to 4-7 days for newborns with known opioid exposure, especially opioids with longer half-life.
	• Symptoms due to NOWS may last weeks or months
	
	Evidence-based care after delivery:
	• Care is to optimize the functional status of the newborn using the support interventions of 'Eat, Sleep, Console' and focus on teaching and supporting parents/support persons to provide care to the newborn with NOWS
	• Opioid withdrawal symptoms (CNS irritability, yawning, sneezing, etc.) should *not* be used to determine need for medications. Symptoms are expected and interventions should be used to minimize them so that the newborn can meet the goals of 'Eat, Sleep, Console'

Eat, Sleep, Console assessment*	**Eat, Sleep, Console (ESC) assessments**
	• Assessment should begin within 4-6 hours after birth
	• Ongoing assessment should occur every 3-4 hours
	• Assessments occur after feedings, during skin-to skin, or while being held or swaddled
	  ○ Review with parents how previous few hours have been, reference their care diary/log as needed
	  ○ Care should be clustered (e.g. all care provided in the same care window to allow for maximize rest and minimize stimulation)
	
	Eat:
	Does the newborn have poor eating due to NOWS—Yes/No?
	• Poor eating due to NOWS
	  ○ Baby is unable to coordinate feeding within 10 minutes of showing hunger cues AND/OR is unable to sustain feeding for 10 minutes at chest/breast or

with 10 mL of finger- or bottle-feeding due to NOWS symptoms (e.g., fussiness, tremors, uncoordinated or excessive suck).
    - Special Note: Do not indicate "Yes" for poor eating if it is clearly due to non-NOWS related factors (e.g., prematurity, transitional sleepiness or spittiness in the first 24 hours of life, or inability to latch due to newborn / lactating person anatomical factors).
  - Use of supplemental feeding supports, including a gavage tube should be seen as a non-pharmacological intervention. Their use should not lead to a "Yes".

Sleep:
Did the newborn sleep less than 1 hour after feeding due to NOWS—Yes/No?

- Sleep <1 hour due to NOWS
  - Newborn is unable to sleep for more than a one hour stretch after feeding due to NOWS symptoms (e.g., fussiness, restlessness, increased startle, tremors)
  - Normal sleep patterns for gestational and postnatal age should be taken into account
  - Sleep < 1 hour may be normal in the first few days after birth, particularly in chest/breastfed newborns who are cluster feeding (i.e., feeding frequently in a short period of time)

Console:
Is the infant unable to be consoled within 10 minutes due to NOWS—Yes/No?

- Unable to console within 10 minutes due to NOWS
  - Newborn unable to be consoled within 10 minutes by parent or support person(s) effectively providing consoling support (see non-pharmacological treatments)
  - Do not indicate 'Yes' if the newborn's inconsolability is due to hunger, feeding difficulty or other non-NOWS sources
- Rank the newborns consolability on a scale of 1 to 3
  - 1: Soothes with little support: Consistently self-soothes or is easily soothed
  - 2: Soothes with some support: Soothes fairly easily with skin-to-skin contact; being held, clothed, or swaddled; rocking or swaying; sucking on finger or pacifier; or feeding
  - 3: Soothes with much support or does not soothe in 10 minutes: Has difficulty responding to all parent efforts to help newborn stop crying OR does not soothe within 10 minutes; never self-soothes

Team Huddle:
A Team Huddle must take place if the answer to any of the 3 ESC answers is "Yes," or if the newborn is ranked as a "3" for consolability

- The team must work together to maximize non-pharmacologic interventions.
  - See Non-Pharmacologic treatment and Team Huddle sections

*Adapted and taken from: Grossman, M., Minear, S., Whalen, B., Wachman, E. (2017). *Eating, Sleeping, Consoling (ESC) Neonatal Abstinence Syndrome (NAS) Care Tool.* QIC Resources. https://www.cffutures.org/files/QIC_Resources/Learning_with_the_Expert/Eat_Sleep_console_manual_with_tools_Yale_Boston_NNEPQIN.pdf

Jump to Top

Non-pharmacologic Treatment	**Non-pharmacological Treatment**
	First line treatment is non-pharmacologic care provided by the parents/support persons
	• Cluster care
	  ○ Care is clustered and attempts made to provide care when infant is awake to maximize sleep and decrease stimulation
	• Focus is on parents and support persons **learning** and providing non-pharmacological interventions
	  ○ Symptoms for NOWS may persist for weeks or months after discharge, by learning care of the newborn we can better ensure success and use of appropriate support interventions after discharge
	  ○ A trauma-informed approach, including being aware of personal implicit biases, should be taken at all times
	• Provide parents with information on support interventions (supportive documents, education, resources) to maximize success
	  ○ Access to swaddling devices or swings, closed captioning on televisions to reduce noxious stimuli, additional help such as newborn cuddlers
	
	Some support interventions to promote ESC:
	
	Console and sleep
	• Skin to skin holding, kangaroo care
	• The "5 S's": swaddle, shush, swing, sucking, side or stomach lying
	• Walking or moving while holding
	• Softly talking to newborn
	• Containment (firm placement of hands on abdomen while holding arms and legs midline)
	• Facilitating hand to mouth
	• Swing (must be on monitor or with an awake adult)
	• Ensuring the newborn is well fed (not over or under fed) and burped
	
	Environment
	• The environment should be free of noxious stimuli to decrease central nervous system overstimulation
	  ○ Low lights, quiet noises, decreased room activity (e.g., visitors)
	
	Feeding
	• In the absence of other contraindications, chest/breastfeeding should be encouraged while the lactating person is taking buprenorphine or methadone as prescribed
	• Due to the NOWS, newborns may need the following feeding support
	  ○ Frequent, small feeds
	  ○ Ensure the feeding volume is appropriate, especially if divided over frequent small feeds
	  ○ Swaddling may help calm the newborn while feeding
	  ○ Consider using a single position (e.g. right sided football hold) at every feed to provide consistency and routine
	  ○ Frequent burping may be necessary
	  ○ Chest/breast feeding:

Jump to Top	▪ Assistive feeding devices such as nipple shields or supplemental-nursing system ▪ Use hand expression and breast massage while feeding or pumping ○ Bottle feeding ▪ Position baby in side lying position ▪ Pace the feeding slowly and use a slow flow nipple • Consider supplementation and fortification early to maximize volume and caloric intake ○ In the presence of watery or loose stools hydrolyzed or lactose free formulas may be considered ○ Consult with a dietician or pediatrician to determine best fortification and supplementation options • Gavage feeds may be warranted in some patients to maximize intake and calories or if feeding is disorganized ○ Use of assistive feeding devises, supplementation, and fortification are meant to maximize a newborn's eating and should not elicit a 'Yes' response to the Eat assessment **Skin care** • Prophylactic diaper dermatitis care begins immediately, before symptoms start ○ *Consider initial treatment such as an emollient* • Provide frequent diaper changes to keep skin dry and free of irritants, while striving to provide clustered care • At the first signs of redness or irritation, escalate care ○ Avoid wiping off protective barrier completely with diaper changes ○ *Secondary treatment may include zinc based creams* • Consider a wound consult with progressing dermatitis
Team Huddle Jump to Top	The goal of the Team Huddle is to optimize newborn care with non-pharmacologic interventions that help the newborn eat, sleep, and console • The healthcare team is there to support the parents and to teach them how to maximize non-pharmacologic interventions A Team Huddle will take place • After any "Yes" assessment • Before starting or shifting any pharmacologic intervention • At minimum, they will include the bedside nurse and parent/caregivers ○ Additional consultation from support people, charge nurse, lactation, case management, and spiritual care may increase awareness around barriers to non-pharmacological care ○ A provider should be present at the Team Huddle before starting or shifting any pharmacologic intervention • Follow-up assessment timing should take into consideration the goals of care and needed interventions.
Pharmacologic treatment	If non-pharmacologic interventions have been maximized, pharmacologic interventions should be considered • A 'Team Huddle' must take place before starting any medication

- Consider consulting with a pharmacist before starting, titrating, weaning, or adding adjunct therapies
- Medications are administered when the newborn is awake during clustered hands on care
- **Monitoring:**
  - **Newborns must be placed on an EKG monitor with saturation capabilities with a nurse present or central monitoring available for 4 hours after any PRN morphine administration**
  - **Newborns must be on continuous monitoring for scheduled medication administration**

PRN Medication

- PRN medication administration is attempted before starting scheduled doses
  - Often, a single dose or multiple PRN doses will provide the support a newborn needs and additional scheduled doses are not needed
  - Consider a one-time dose to assess impact of treatment
    - *Typical starting PRN dose: morphine 0.04mg/kg/dose PO PRN Q3hrs*
  - Hold a Team Huddle before transitioning to scheduled doses

Scheduled medication treatment

- Scheduled treatment may be indicated if more than 3 PRN doses are needed in 24 hours and if ESC goals are not met despite maximizing non-pharmacologic interventions.
  - *Typical dose: morphine 0.04mg/kg/dose PO q3hours*
- Increase dose to accomplish ESC goals
  - *Typical increase strategy is to increase morphine dose 0.01-0.02mg/kg/dose approximately every 6 hours*
- Once ESC goals are achieved, maintain current dose for a minimum of 24-48 hours

Adjunctive medication

- Adjunctive therapy may be considered if morphine dose has been maximized or if weaning has been unsuccessful for 5 or more days
  - Consider adding adjunctive therapies early in cases of known polysubstance use
  - *Typical dose: clonidine 1.5 mcg/kg/dose Q6hrs*
    - Blood pressures should be taken every shift while on clonidine

Weaning

- Weaning occurs after a Team Huddle
- Wean morphine first if using adjunctive therapies
- Wean for achievement of ESC goals
  - *Typical weaning strategy is to decrease morphine dose 0.01mg/kg/dose every 24 hours*
- Once dose returns to starting dose, consider spacing dosing interval for the next 24-48 hours. Additional PRN doses may be needed
- Re-escalation may be considered if weaning fails to achieve ESC goals
  - PRN doses may be attempted or dosage increased per guidelines stated above in 'scheduled medication treatment'

Inpatient placement consideration
 	
[Jump to Top](#)
	These guidelines show patient placement options. Please consider site-specific licensing, training, competencies, and availability of resources when determining patient placement
	
	General guidance
	• Prenatal considerations should be made to counsel pregnant individuals to deliver at a facility with an appropriate level of care (Level II Nursery, NICU and/or Pediatric unit), when able.
	  ○ Consider facilities that provide consultive care specializing in neonates and NOWS, including case management, social work, nutrition/dietician, and lactation care
	• Newborns with NOWS may be admitted to any birthing center, NICU, or pediatric unit that is licensed to care for newborns with NOWS
	  ○ Higher levels of care may be warranted in patients with comorbidities including but not limited to prematurity, respiratory distress, sepsis, hypoglycemia
	• Once the birth parent has been discharged, prioritize newborn placement at locations that provide rooming in for the primary caregiver to support 24-hour access for caring for the newborn
	
	Level I Nursery (birthing center, LDRP, etc.)
	• PRN doses of morphine may be administered at a level I nursery as long as the newborn can be monitored
	  ○ **Newborns must be placed on a monitor with heart rate and saturation monitoring capabilities with a nurse present or central monitoring available for 4 hours after any PRN morphine administration**
	  ○ Strong consideration should be made to consult with a referral center before considering a PRN dose
	• If more than 3 PRN doses are needed in 24 hours, or if scheduled doses are needed, transfer to a higher level of care should occur
	
	Level II Nursery, NICU, or pediatric unit
	• Newborns with NOWS may be admitted and cared for in a level II nursery, NICU, or pediatric units licensed to care for this population
	  ○ Pediatric units with nurses not trained and competent in the care of the newly born baby experiencing postpartum transition may receive transfers of newborns with NOWS based on their nursing competencies or when the newborn is considered stabilized postpartum (typically >24 hours old)
	• PRN doses or scheduled morphine or adjunctive therapy doses may be administered in these settings as long as the newborn can be monitored
	  ○ **Newborns must be placed on a monitor with heart rate and saturation monitoring capabilities with a nurse present or central monitoring available for 4 hours after any PRN morphine administration or continuous monitoring for scheduled medication administration**

Discharge	**General Guidelines** • Discharge plans should include counseling and plan for ongoing support of:

Jump to Top	○ Feeding care plan ○ Skin care plan ○ Creation of a home environment that provides low stimulation ○ Use of ongoing support interventions • Follow-up appointments are based on clinical course ○ Unmedicated courses with earlier discharge may require an earlier follow-up appointment to ensure the newborn continues to meet the goals of ESC with non-pharmacological interventions • Referrals should be made to community resources **Unmedicated** • Typical discharge should be no sooner than 72 hours • Newborn should be meeting all goals of ESC with non-pharmacological interventions ○ Discharge should occur no sooner than 24hours after any "Team Huddle" • Discharge may need to be adjusted based on projected length of withdrawal **Medicated** • Newborn must be meeting all goals of ESC with non-pharmacological interventions • Newborn should be at minimum 48 hours from last dose of medication

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