Neonatal Abstinence Syndrome Eat Sleep Console (ESC) Guideline

AIM: By implementing a patient-centered function-based assessment we will:

1. Improve health for newborns with NAS by decreasing need for pharmacologic treatment and decreasing length of stay.
2. Improve the care experience for the baby, family, and providers by using a simplified assessment and including the family in the care plan.
3. Decrease hospital cost.

Nonjudgmental care

Our goal as healthcare leaders is to work toward establishing good parental-infant bonding and teach parenting skills in an empathetic and nonjudgmental atmosphere. We hope this approach will help to prevent later child abuse and neglect and promote a long-term supportive environment for the infant.

Parental expectations

Mothers on chronic opioids will receive education about ESC and the importance of their participation in the care of their infant throughout the hospitalization from their obstetric provider and/or though a Wee Care consult prenatally. The goal is for the family to plan ahead for the likely increased length of stay so they can provide around the clock care for their child throughout the entire hospital stay. The education provided will review the goals of care, how we evaluate the infant and will focus on the importance of the family's constant presence. This education will be reiterated when they arrive to L&D. If the mother's opioid use is first detected at the time of delivery the education will be provided at that time.

Withdrawal vs Toxicity

In the first 24 hours after birth, symptoms of poor feeding, poor sleeping and difficulty consoling are **unlikely to be secondary to opioid withdrawal**. Typically, these symptoms are due to toxicity from recent drug use (cocaine or methamphetamines), nicotine exposure, or withdrawal from chronic SSRI exposure. Patients with polypharmacy exposure are likely to have more exaggerated symptoms. Nursing staff will teach these families non-pharmacologic treatments but they will not use the ESC assessment to direct treatment with opioids unless the patient has had prolonged opioid exposure prior to birth.

Screening

All patients at risk for NAS (known prolonged opioid exposure or high risk patients defined as infants of mothers who had no prenatal care, h/o illicit drug use, positive drug screen during pregnancy, intoxication on admission) will have appropriate drug screens performed. Providers may send the first urine for screening if able to obtain but should not rely solely on this test. All at risk patients should have a meconium drug screen sent. Additionally, it is recommended that an umbilical drug screen, including umbilical THC testing is sent at facilities where this testing is available.

Breastfeeding/Breast Milk

All infants at risk for withdrawal will have urine, meconium and umbilical cord drug testing. Mothers on chronic prescribed opioids will be allowed and encouraged to breastfeed or pump and provide EBM. They will be educated on the importance of slow weaning from maternal breast milk when they wish to stop providing breast milk. Mothers who have a history of illicit drug use will not be permitted to breastfeed or provide breastmilk during the hospitalization unless all drug screens have returned negative for cocaine, methamphetamines, phencyclidine (PCP), and heroin. Mothers with a positive screen for only THC will be allowed to provide milk but will be educated about the dangers of neonatal exposure to THC. All mothers with a history of illicit drug use will be provided with education about the dangers of neonatal exposure to illicit drugs.

Eat, Sleep, Console

If the answer is "YES" to any of the Eat, Sleep, or Console questions then the nurse should FIRST huddle with the family to determine why the infant may be struggling. If the symptoms are due to NAS then nonpharmacologic interventions should be increased. If the answer is again "Yes" at the next assessment after increasing and optimizing all nonpharmacologic interventions then the nurse should call the physician or NP to discuss the need for possible pharmacologic treatment.

Poor Eating: The expectation is for the baby to coordinate within 10 min of showing hunger OR sustain feeding for at least 10 min at breast or with 10 ml or an age appropriate volume by alternate feeding method. These volumes are approximate and may need to be adjusted for each individual patient. To answer "Yes" for poor eating, it must be due to NAS. Do not indicate patient is feeding poorly on the ESC scale if it is clearly due to non-opioid factors (e.g. prematurity, transitional sleepiness, normal feeding intolerance in the first 24 hours, or inability to latch due to infant/maternal anatomical factors).

All patients should be fed on demand. Assess if the patient is having coordination issues that require a different feeding technique (e.g. need for different nipple, different feeding position, issues with latch on breast) and make changes as necessary. Consider a speech therapy consult if feeding difficulty is due to persistent mechanical factors. If a patient's low volume of intake appears to be related to sleepiness, an NG tube should be considered rather than pharmacologic intervention.

Infants may have increased agitation due to gassiness and use of a sensitive formula may be helpful. If the infant is having issues with significant weight loss (higher than expected for normal newborn) then consider higher calorie milk since these infants may have higher metabolic demand related to withdrawal.

Poor Sleeping: The expectation is for the baby to sleep at least 1 hour after eating. The infant may be held to sleep if needed. To answer "Yes" for poor sleep it must be due to NAS. Do not indicate "yes" the infant has not slept appropriately if it is clearly due to non-opioid related

factors (e.g. symptoms in the first day due to nicotine or SSRI withdrawal, physiologic cluster feeding in first few days of life, interruptions in sleep for routine newborn testing.) If poor sleep is due to NAS be sure to evaluate the environment and optimize the low stimulation environment (e.g. low lights, soft music, no loud TV, limited cell phone, sound off if gaming, minimal disturbances from visitors, low talking/whispering voices). Patients should never be woken up for routine vital signs.

Difficulty Consoling: The expectation is for the baby to be able to be consoled within 10 min of becoming irritable. To answer "yes" for difficulty consoling, the provide must be unable to console the baby for longer than 10 min due to NAS despite infant caregiver/provider effectively providing any/all of the following consoling support interventions. Do not indicate "yes" the infant cannot console if it is clearly due to non-opioid related factors (e.g. caregiver non-responsiveness to infant hunger cues, circumcision pain, etc.).

Consoling support interventions

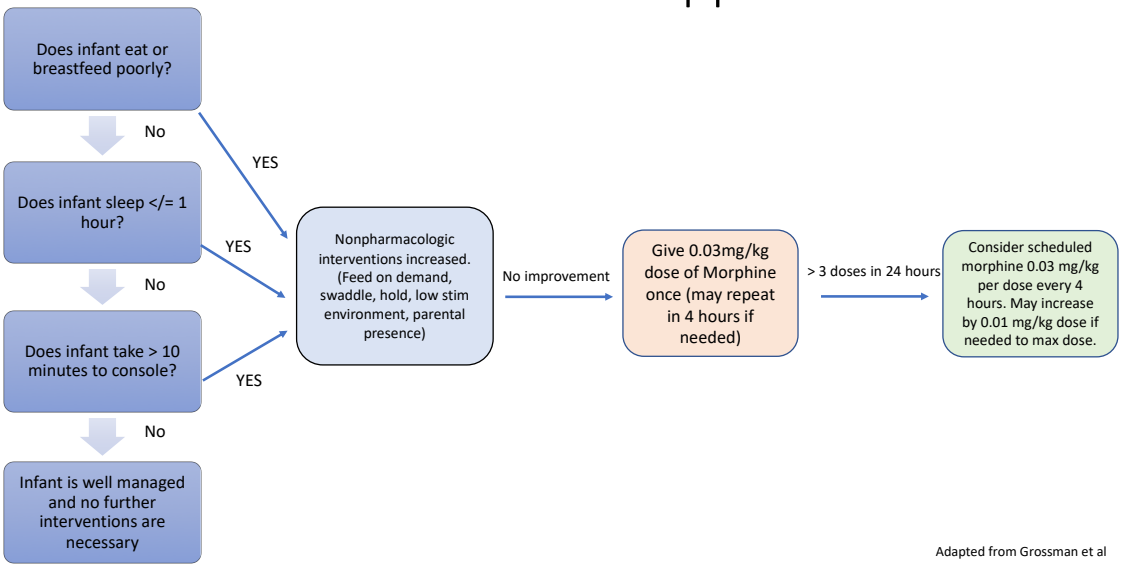
- Caregiver softly and slowly talks to infant.
- Caregiver looks for hand-to-mouth movement and facilitates by gently bringing infant's hand to mouth. May use pacifier as well.
- Caregiver continues talking to infant and places their hand firmly but gently on infant's abdomen.
- Caregiver continues to softly talk to infant while bringing baby's arm and legs to center of infant's body.
- Caregiver pick up infant, hold skin-to-skin or swaddled in a blanket and gently rocks or sways the infant.
- Caregiver offers a finger or pacifier for infant to suck, or a feeding if infant showing hunger cues.

Consoling maneuvers work best when initiated at the **first** signs of distress (including feeding). Waiting to console until the infant is significantly agitated should be discouraged and avoided.

Cuddler program

A volunteer program will be created to help support families with holding, comforting, feeding and changing the baby when they need a break or need to briefly leave the hospital. The volunteers will be trained on the special needs of these infants. Ideally the need for a volunteer will be anticipated and scheduled with the family.

Fort Worth ESC approach



Adapted from Grossman et al

Pharmacologic treatment

If patient does not respond to increased nonpharmacologic interventions and the inability to eat, sleep, or console as described is due to NAS then a single dose of morphine 0.03 mg/kg may be given orally. The provider can consider monitoring patient on a pulse-ox for 3 hours in the room after a dose of morphine. The patient may be dosed prn again if needed but the need for each dose should be assessed by the physician/NP prior to administration. If the patient requires > 3 doses in 24 hours then the provider may consider scheduled treatment of morphine 0.03 mg/kg Q4h and increase the dose by 0.01 mg/kg as needed Q8h until the patient can eat, sleep, and console appropriately up to a maximum dose of 0.2 mg/kg Q 4h. If the patient is placed on scheduled medication then providers should consider the use of a pulse ox monitor while rooming in with the family until a stable dose is achieved. Recommend discontinuing monitors and resuming a rooming in off monitors status once patient is on a stable scheduled dose x 24h. Once the patient can eat, sleep, and console then the provider should wean the scheduled medication by 10% of the peak dose up to three times a day and consider discontinuing scheduled medication when at 0.02 mg/kg dosing. If patient has difficulty with ESC during the morphine wean then the provider should give a onetime dose of the previous effective dose and resume the current dose. If difficulty continues then return to the previously effective scheduled dose.

Adjuvant treatment

If not able to wean scheduled morphine for 5 days or if at max dose of morphine and symptoms are still not controlled using the ESC assessment then provider may consider use of clonidine as an adjuvant treatment. Dose clonidine 1 mcg/kg/dose Q6h. Once stabilized x 24h

start to wean morphine as described above. Once at dose of 0.05 mg/kg/dose then wean clonidine 0.75 mcg/kg PO q6h x 1 dose, 0.5 mcg/kg PO q6h x 1 dose, 0.25 mcg/kg PO q6h x 1 dose, then discontinue Clonidine. After clonidine weaned off then continue with morphine wean as described above. The provider may alternatively wean off morphine first then follow with weaning off clonidine.

Observation time after birth

Observation time after birth will be based on type of maternal drug exposure. Short acting drug exposed infants (heroin, oxycodone, codeine) should be observed at least 48-72 hours. Longer acting drug exposed infants (buprenorphine and methadone) should be observed at least 96-120 hours.

Social Work

All families should have a social work consult. Need for CPS referral to be determined by SW.

Discharge

Infants are considered safe for discharge if able to eat, sleep, console per the guidelines after the suggested observation time and/or for at least 24 hours after the last morphine dose. Patients must meet other normal discharge criteria as well.

References

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