How Eat, Sleep, and Console (ESC) is changing the care of NAS baby and their family

Tammy Boelk BSN, RN- Labor and Delivery and Special Care Nursery
Staci Bohling BSN, RN- Prenatal Education Coordinator
Betty Matthies BSN, RNC-OB- Professional Development Coordinator

Objective

- Define the Eat, Sleep, Console (ESC) approach
- Describe implementation of ESC at the Froedtert and the Medical College St. Joseph's Hospital in West Bend
  - Includes a review of the cases of NAS treated in the facility since starting ESC, and includes patient feedback and discussion to understand the family side of the care that is involved.

Froedtert and the Medical College St. Joseph's West Bend

- Only birth hospital in Washington County
- Froedtert—academic facility; Community Memorial and St. Joseph's—Community Hospital Division
- 12 LDRP
- Special Care Nursery-Level I-babies ≥ 35 weeks
  - (supported by CHW neonatology and NNPs)
- 648 births in 2018
- 30 staff RNs, 12 techs, 3 IBCLC

Where we began with NAS treatment- standard protocol for maternal screening

- All patients are screened prenatally (each trimester) using the Boden tool.
- If the patient states she has used in the last 3 months, urine drug screen with maternal consent.
- Referral to Stacy Boden Pediatric NP to meet with patient and discuss care of the baby after delivery.
- Patients screened with Boden tool on hospital admission. If she admits to use, urine drug screen with maternal consent.

Where we began with NAS treatment- standard protocol for newborn care

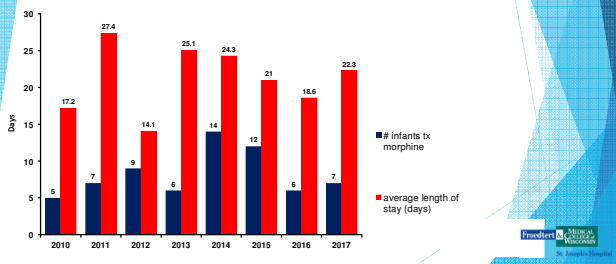
- Review with patient ESC and treatment of NAS in the hospital by RN or Stacy Boden PNP
- Urine and meconium collection on baby
- Place standard protocol addressing frequency of screening and provider notification
- Used the Finnegan tool for scoring
  - Admit to SCN for pharmacologic interventions per the Finnegan recommendations
  - Start on a weight based dosing according to Finnegan guidelines
  - Dosed on scoring
  - Wean every 1-2 days

Standard approach to NAS observation

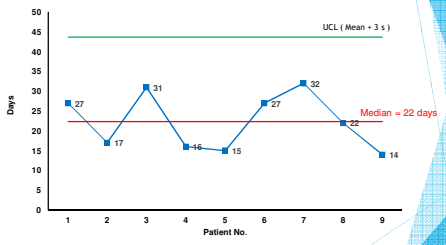
Infants exposed to the following drugs/medications should be observed closely for signs and symptoms of withdrawal with NAS scoring for per clinical guideline recommendations:

- **48 hours/2 days**: Marijuana, Solvents/Aerosols, LSD, Alcohol
- **72 hours/3 days:** Morphine, Meperidine (Demerol), Oxycodone (Percodan),Hydromorphone (Dilaudid), Codeine, Cocaine, Hydrocodone (Vicodin), Fentanyl (Sublimaze), and Propoxyphene (Darvon)
- **144 hours/6 days:** Buprenorphine (Suboxone), Heroin, Methadone, Diazepam (Valium), Chlorpromazine (Thorazine), other Benzodiazepenes, Phenobarbital, and other Barbituates.

Number of Infants Treated with Morphine and Length of Stay, St. Joseph's Hospital, 2010 -2017



Run Chart of LOS of Newborns with NAS at St. Joseph's Hospital at West Bend, January 2017 - May 2018



Why the change?

- Quality Improvement Project
  - Promote a more parent center approached
  - Shorten length of stay
- Dr. Erwin Cabacungan, MD, MPH Associate Professor, Pediatrics at the Medical College of WI
  - Read the article ESC and then met authors at Pediatric Academic Meeting
  - Presented to Medical staff and Birth Center staff
  - Updated standard protocol for assessment and treatment

Rationale for Eat, Sleep, and Console (ESC):

- Eating, Sleeping, Consoling (ESC) Neonatal Abstinence Syndrome (NAS) Care Tool, Instructional Manual 1st edition, Matthew Grossman MD et al. Boston medical Center Corporation 2017
  - Recent studies are questioning the validity of the Finnegan Scoring Tool because it is based on many signs and symptoms of opioid withdrawal and treating based on numbers.
  - Newer Study suggests using a function based focus assessment while assessing the NAS infant, looking at their ability to eat, sleep, and be consoled.

Outcomes

	Outcomes Using the ESC Approach	Predicted Outcomes Using the Finnegan's Approach	*p* - value
Infants with NAS receiving morphine, n (%)	6 (12)	31 (62)	< 0.001
Hospital Days, n (%)	258 (87.2)	156 (52.7)	< 0.001
No Morphine	8 (2.7)	76 (25.7)	< 0.001
Increased Morphine Dose	21 (7.1)	35 (11.8)	< 0.001
Decreased Morphine Dose	9 (3.0)	29(9.8)	< 0.001
Same Morphine Dose			

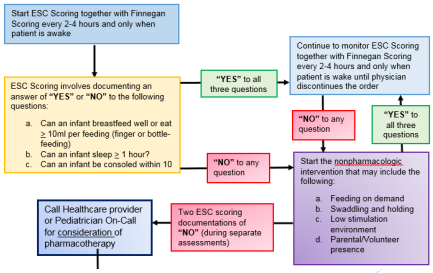
ESC approach limits pharmacologic treatment (98% to 12%) and may lead to reductions in length of stay (22.5 days to 5.9 days).

Grossman, M. et al., *Hospital Pediatrics*. 2018;8(1):1-8

First steps

- Obtained copyright material from the authors
- Submitted copyright material to Epic team for build
  - Flowsheet rows
- Revised EPIC NAS order set
  - Add ESC approach
- Algorithm for ESC approach
- Report our data to authors
- Education of Birth Center Nurses and Physicians (Pediatricians and Family Practitioners)
- Revised Pharmacotherapy Treatment Guideline for NAS

ESC algorithm for Nurses



Implementation of NAS scoring

Finnegan

- Initial assessment should be completed within 2 hours of birth and continues based on the length of time required for the type of infant exposure.
- Every 3-4 hours scoring depending on score. If ≥8 then score every 2 hours, until score was less than 8 for 24 hours.
  - Have to wake the baby for assessment.

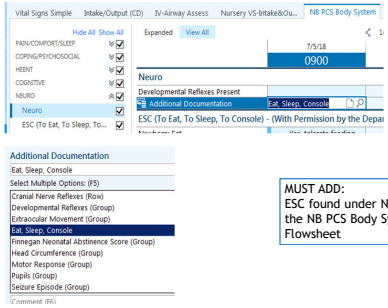
ESC

- Initial assessment should be completed within 2 hours of birth and continues based on the length of time required for the type of infant exposure.
- ESC assessments should be performed every 2-4 hours at the time of routine cares or feedings.
  - Do not wake the baby.

When/Where/How is Infant Scored?

- All assessments should reflect the interval timeframe since last ESC assessment
- Assessments should be completed in their own room and remain with their mother (or visiting caregiver) as much as possible
- ESC assessments are completed and documented in the Epic ESC flow sheet based on substance exposure
- Both ESC & Finnegan Scoring are done at each assessment time for comparison
  - Treat only based on ESC answers

Documentation in Epic



MUST ADD:
ESC found under Neuro in the NB PCS Body System Flowsheet

Define Newborn: EAT……

Yes

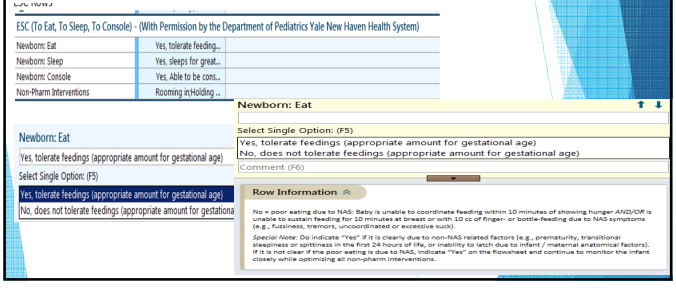
- Breast feeding or Bottle feeding well
  - Breast: latches deeply with comfortable latch for mother and sustains active suckling with only brief pauses
  - Bottle: effectively coordinates suck and swallow without gagging or excessive spitting up
- Eating 10 ml of finger or bottle feeding each feeding
- Indicated if clearly a non- NAS related issue (prematurity, spittiness or sleepy first 24 hours, or inability to latch/suck due to infant/maternal anatomical factors)
- If unclear if poor feeding is due to NAS, continue to monitor infant while using non-pharm interventions

No

- Poor feeding due NAS symptoms (fussiness, tremors, uncoordinated or excessive suck)
- Unable to coordinate feeding within 10 minutes of hunger cues
- Unable to sustain suck/latch within 10 minutes of initiating feeding
- Any excessive spitting up or emesis with feeding

ESC Question 1

Can infant feed well? *(Newborn: Eat)*



Define Newborn: Sleep ……

Yes

- Able to sleep for 1 hour or longer after feeding
- Indicate if sleeps <1 hour is clearly related to non-NAS factors (cluster feeding, interruptions for routine newborn care, symptoms in first day likely due to nicotine or SSRI withdrawal)
- If unclear if sleep < 1 hour is due to NAS, continue to monitor infant while using non-pharm interventions

No

- Sleeps < 1 hour due to NAS symptoms (fussiness, restlessness, increased startle reflex, tremors)

Define Newborn: Console ……

Yes

- Infant consoles easily with 10 minutes using Consoling Support Interventions .
- Indicate if inconsolable due to hunger, difficulty feeding, or non-NAS source of discomfort.
- If unclear if the inability to console is due to NAS, continue to monitor infant while using non-pharm interventions

No

- Infant inconsolable within 10 minutes of caregivers providing comfort & supporting interventions
- Excessive crying and restlessness for over 10 minutes with interventions provided