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# Eat, Sleep, Console for Neonatal Abstinence Syndrome Babies

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# Eat, Sleep, Console for Neonatal Abstinence Syndrome Babies: Improving Patient Education

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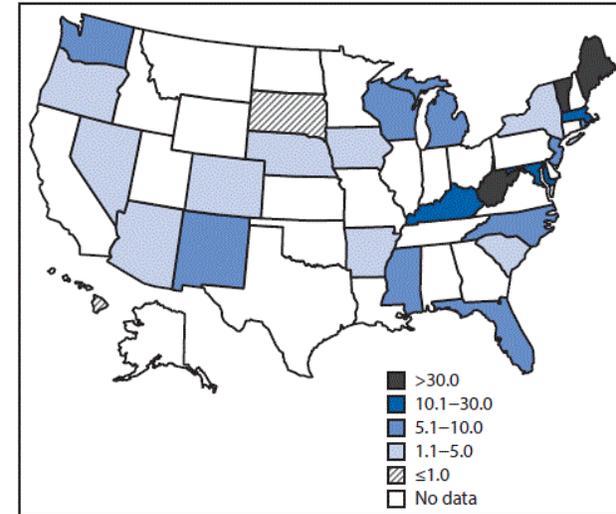
January 2019

## 2. Problem Identification

- Neonatal Abstinence Syndrome (NAS) is a complex disorder that manifests with neurologic, gastrointestinal, and musculoskeletal disturbances and is most often associated with opioid withdrawal.<sup>1,2</sup>
- In the US, 6 out of 1,000 babies are born to mothers who used opioids during their pregnancy. These babies go on to develop NAS.<sup>3</sup>
- The American Academy of Pediatrics recommend a 2-tiered approach to treatment: first focusing on nonpharmacologic interventions and then starting opioids only when nonpharmacologic interventions fail.<sup>4</sup>
- Most institutions use the Finnegan Neonatal Abstinence Scoring System (FNASS) to guide pharmacologic treatment. This system assigns a score based on 21 clinical signs of withdrawal with a score  $\geq 8$  indicating a need for pharmacologic treatment.<sup>2</sup>
  - This system has never been validated nor has its score cutoffs been tested.<sup>2</sup>

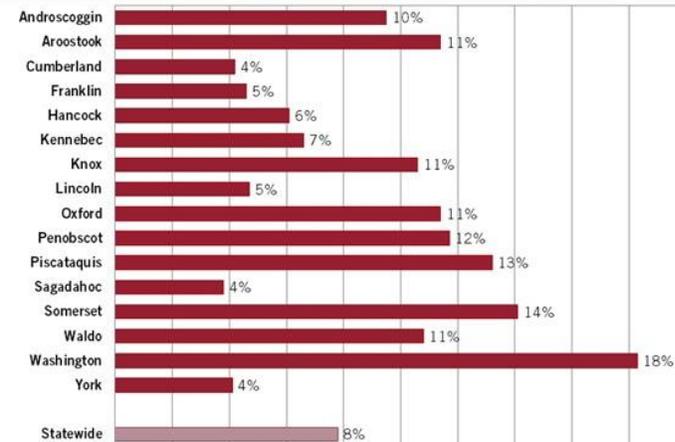
# 2B. Problem Identification

- In 2013, Maine had much higher rates of NAS: 30 out of 1,000 babies will develop NAS.<sup>3</sup>
- By 2017, this number had increased to 80 out of 1,000.<sup>5,6</sup>
- Androscoggin County, where Central Maine Medical Center is located, has an even higher rate of babies with NAS: 100 out of 1,000.<sup>5,6</sup>



Neonatal abstinence syndrome (NAS) incidence rates — 25 states, 2012-2013

## Neonatal Abstinence Syndrome Births by County 2017



# 3. Public Health Cost

- Using traditional guidelines, between 50-80% of opioid-exposed infants require pharmacologic treatment of NAS which requires a long weaning period, translating to a long length of stay.<sup>7</sup>
- The average length of stay for all infants with NAS in the US between 2009 – 2012 was 17 days.<sup>8</sup>
- On average, the cost of treating an infant with NAS ranges from ~\$20,000 on an inpatient pediatric ward to ~\$93,000 in a NICU.<sup>7</sup>
- Eat, Sleep, Console is a novel approach which has shown to decrease average length of stay, pharmacologic treatment, and healthcare costs.<sup>2,8</sup>
  - In this approach, babies who can drink  $\geq 1$  oz of milk/formula at a time, sleep for  $\geq 1$  hour at a time, and are able to be consoled in  $\leq 10$  minutes are considered to have their NAS controlled.

# 4. Community Perspective

- “We are excited to move forward with the Eat, Sleep, Console approach to treating babies with NAS. It is a big change inasmuch as we will stop using the Finnegan scoring system, we can use morphine PRN to treat severe symptoms instead of scheduled, and we can keep the babies with their mothers in the room. The hospitals that have already started using ESC are reporting great outcomes and very good experiences with this approach... We are just in the early stages of getting [educational materials] together and I was hoping to pull something together.” – Sheila Carroll, MD Pediatric Hospitalist at CMMC
- “I started to think that maybe a project that might be beneficial to our patients is developing some literature for patients about the Eat, Sleep, Console approach to NAS babies here at CMMC.” – Bethany Picker, MD Family Medicine at CMMC FMR

# 5A. Intervention & Methodology

- Intervention
  - Create an educational brochure to provide to parents and providers. As many family physicians, especially residents, in the area are still unfamiliar with the Eat, Sleep, Console protocol my mentor & myself felt it important to provide them with the same brochure their patients may be receiving.
  - Include a basic framework describing NAS, what to expect after birth, and how the Eat, Sleep, Console method of treatment works.
- Methodology
  - Using a handout currently in use at UVMMC as a framework, an educational brochure was created.
  - The information from the UVMMC handout was adapted to include information specific to the patient population and protocol at CMMC.

# 5B. Intervention & Methodology

## What is Eat, Sleep, Console?

Eat, Sleep, Console (ESC) is a method to help care for your baby. This method is used for babies who are experiencing Neonatal Abstinence Syndrome (NAS). ESC emphasizes how well your baby is eating, sleeping, and their ability to be consoled.

## What is Neonatal Abstinence Syndrome?

NAS occurs when a baby is withdrawing from certain substances after birth. The most common substances used during pregnancy that lead to NAS are methadone, buprenorphine, pain meds, heroin, and fentanyl. Symptoms in your baby typically occur 2-3 days after birth but may not start until even day 4.

## What will NAS look like in my baby?

NAS may look slightly different in each baby. The most common signs of NAS include:

- Tremors, jitteriness, shaking of arms and legs
- Tight muscles in arms and legs
- Fussiness
- Trouble eating or sleeping
- Difficult to console or calm down
- Loose or watery stools
- Losing too much weight or not gaining enough weight

## Questions?

Please feel free to ask any questions you may have to any member of your treatment team. We will be happy to answer them or direct you to someone who can provide you with any information you may need!

This educational brochure was adapted from a pamphlet developed by Dr. Bonny Whalen and staff at the Children's Hospital at Dartmouth-Hitchcock (CHaD) with further input from a pamphlet in use at UVMMC.



A graphic consisting of several overlapping squares in shades of orange, blue, and yellow. In the center, there is a black and white photograph of a baby being held. Below the graphic is the logo for Central Maine Medical Center, which features three stylized human figures in blue and the text "Central Maine Medical Center" in blue. At the bottom of the graphic is a dark blue box with white text that reads "Eat, Sleep, Console Treating Neonatal Abstinence Syndrome".



## Eat, Sleep, Console Approach

ESC provides a framework to help guide your baby's treatment team and you to make decisions about how best to care for your baby.

Using this method, we will watch your baby closely for signs of withdrawal. We check in every few hours to see how your baby is eating, sleeping, being consoled, and pooping. We also will check in with you to see what types of things help your baby be consoled the most. This includes things like: holding, skin-to-skin contact, swaddling, suckling, a calm room, and other things you may have found comfort your child.

Depending on how your baby is doing in each of these categories, we may recommend starting a medication. This medication, methadone, helps make your baby comfortable.

## What happens if my baby needs medicine to treat withdrawal?

The ESC approach has decreased the number of babies who require medication for NAS. However, some babies will still need a little extra help. Babies who need medicine will be treated with methadone. They will be monitored in the NICU to monitor them a bit more closely. During this time, you are more than welcome (and encouraged!) to be with your baby.

It may take a few days to find the right dose of methadone for your baby. We will work with you to teach you how to give your baby methadone at home. You will be provided a prescription for methadone so treatment may continue but also so you can take your baby home earlier.



## Congratulations on the birth of your new baby!

### What can I do?

Be with your baby as much as possible! We like to think of the parents being the primary treatment for NAS. Being with your baby helps you learn your baby's cues, so you can respond quickly to your baby's needs. Your baby will be most comfortable and feel safest when they are close to you.

Spending as much time skin-to-skin and keeping your baby swaddled when not skin-to-skin can help calm your baby and help them sleep better.

Keep the room calm, quiet, with the lights down low and limit visitors to 1-2 at a time.

Feed your baby whenever your baby is hungry and until they are content, usually at least every 3 hours. We encourage breast feeding if possible!

Allow your baby to suck after a good feeding – this can be very comforting for them.

# 6. Results

- This trifold pamphlet was provided to the Pediatric hospitalist heading the implementation of Eat, Sleep, Console at CMMC.
- The pamphlet may be used as an initial educational resources for patients who may have babies that develop NAS or may be placed in common areas of offices for patients to pick up at their leisure.
- Further modification & improvement of the pamphlet will be completed as the ESC protocol at CMMC is optimized and the pamphlet is put into use.

# 7. Evaluation

- Effectiveness

- A short survey could be created to evaluate the usefulness of the brochure.
- The survey may include specific evaluation on the following: presentation of the information, ease of understanding, completeness, and if the brochure did provide education to the individual using it.
- The survey may also include a section for free text feedback in order to get a more comprehensive evaluation on the brochure. This feedback may be used to guide future improved drafts of the brochure.

- Limitations

- The short duration during which this project took place did not leave time for many revisions of the educational material to take place.
- Due to the nature of the family medicine practice, I was unable to meet with a mother-to-be receiving treatment for opioid addiction. Gaining her perspective on what type of information is most important to her could have provided valuable insight prior to the creation of this handout.

# 8. Future Recommendations

- Further optimize the pamphlet to provide more specific information with respect to the protocol being done at CMMC.
- Formally evaluate the impact the pamphlet has on patient's knowledge about Eat, Sleep, Console and its utility to convey basic information to parents & providers.
- Provide a pamphlet in French, as there is a significant French-only speaking population in Lewiston & the surrounding areas.
- Expand patient/parent education about NAS/ESC to include more specific and detailed information about the structure of the care team, expected length of stay, and medication treatment regimens should they be needed.

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