Eat, Sleep, Console

Hosted by the Maternal Substance Exposure (MatEx) Database

August 18th, 2021
Overview

• Welcome and brief explanation of the Maternal Substance Exposure (MatEx) database (2 minutes)
• Sharing MatEx research for increasing mother’s own milk at discharge (5 minutes)
• Presentation on ESC (10 minutes)
• Q&A (35 minutes)
• Wrap Up (2 minutes)
MatEx Snapshot
MatEx Data

- 600 infant records from 32 hospitals
- 92% are cared for in the NICU, 17% also cared for in Well Baby
- Some non-pharmacologic treatment: 96%
  - ESC or similar approach: 37% among infants with NAS/NOWS & ≥ 34 weeks GA
  - Slight downward trend in general non-pharmacologic treatment & ESC use
- Some pharmacologic treatment: 66%
  - Slight upward trend in pharmacologic treatment
Improving Care for Infants with Neonatal Abstinence Syndrome/Neonatal Opioid Withdrawal Syndrome (NAS/NOWS)

FOUR POTENTIALLY BETTER PRACTICES

The following practices are based on information collected from CPQCC’s Maternal Substance Exposure (MatEx) Database. The MatEx Database tracks maternal substance exposure and NAS/NOWS across California hospitals. The database allows participating hospitals to identify variations in care practices and to improve the management of infants with NAS/NOWS.

SHIFT MINDSET
Infants with NAS/NOWS are not addicts. They have been exposed to substances in utero and may be suffering from withdrawal. Avoid stigmatizing mothers with substance exposure. Substance use disorder should be viewed as a disease, not a choice. Nonjudgmental care may lead to better breastfeeding outcomes, increased educational opportunities, and better post-discharge care for the infant.

SUPPORT SAFE BREASTMILK
For mothers of infants with NAS/NOWS, breastfeeding is recommended as long as the mother is HIV-negative and enrolled in a medication-assisted treatment program. Infants of mothers who received additional services (including therapy, social work, counseling, etc.) are more likely to be discharged on their mother’s own milk. Supporting the mother-baby dyad is critical to improving infant outcomes.

ALLOW FOR ROOMING IN
Infants diagnosed with NAS/NOWS prefer quiet, low-light environments as they are often sensitive to their surroundings early on. Infant outcomes are also improved if they are allowed to stay in the same room as their caregivers where they have more opportunities for bonding and experience less stress, as opposed to being transferred to the NICU or Nursery.

ENCOURAGE KANGAROO CARE
Kangaroo care promotes the infant's ability to self-regulate and has been shown to reduce infant withdrawal symptoms. Reducing the anxiety and stress of the infant and mother are key to promoting breastfeeding. Increased skin-to-skin time is highly correlated with the infant receiving their mother’s own milk at discharge.

DISCOVER MORE WAYS TO IMPROVE CARE FOR INFANTS WITH NAS/NOWS
visit cpqcc.org/MatEx
What is Eat, Sleep, Console?

Lisa Chyi, MD & MatEx Co-Chair
One doctor’s crusade

Twenty years ago, Loretta Finnegan first became aware of the agony faced by addict mothers and their babies. And she set out to do something about it.

Finnegan cuddles one of her patients at the Family Center for Drug-Dependent Mothers and Their Infants at Thomas Jefferson University Hospital.

Finnegan says she was inspired by her own mother, who had died of cirrhosis of the liver. She decided to study medicine and become a doctor, and eventually devoted her career to helping women and children in need.

Finnegan has received numerous awards for her work, including the W.A. Blogs Award, which she received in 1987, and the Pennsylvania Award for Outstanding Contributions to Public Service. She was also named to the Pennsylvania Hall of Fame in 1996.

Finnegan's work has inspired many others to join her in the fight against maternal and infant drug addiction. She continues to work tirelessly to help those in need and to raise awareness about the problem.
# Finnegan Neonatal Abstinence Scoring Tool

<table>
<thead>
<tr>
<th>Signs &amp; Symptoms</th>
<th>Score</th>
<th>AM</th>
<th>PM</th>
<th>Comments</th>
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<tr>
<td><strong>Central Nervous System Disturbances</strong></td>
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<tr>
<td>Crying: Excessive High Pitched</td>
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<td>Crying: Cont. High Pitched</td>
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<td>Sleeps &lt; 3 Hr After Feeding</td>
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<tr>
<td><strong>Hyperactive Moro Reflex</strong></td>
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<tr>
<td><strong>Markedly Hyperactive Moro Reflex</strong></td>
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<td>Mild Tremors: Disturbed</td>
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<tr>
<td>Mod-Severe Tremors: Disturbed</td>
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<tr>
<td>Mild Tremors: Undisturbed</td>
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<tr>
<td>Mod-Severe Tremors Undisturbed</td>
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<td>Increased Muscle Tone</td>
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<td>Excoriation (Specific Area)</td>
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<tr>
<td>Myoclonic Jerk</td>
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<td>Generalized Convulsions</td>
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<td><strong>Metabolic, Vasomotor And Respiratory Disturbance</strong></td>
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<td>Sweating</td>
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<td>Fever &lt; 101 (37.2-38.3°C)</td>
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<td>Frequent Yawning (&gt; 3)</td>
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<td>Mottling</td>
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<td>Nasal Stuffiness</td>
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<td>Sneezing (&gt;3)</td>
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<td>Nasal Flaring</td>
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<td>Respiratory Rate (&gt; 60/Min)</td>
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<tr>
<td>Respiratory Rate (&gt;60/Min With Retractions)</td>
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Finnegan Score Reliability
An Initiative to Improve the Quality of Care of Infants With Neonatal Abstinence Syndrome


*Pediatrics* 2017;139; originally published online May 18, 2017;
DOI: [10.1542/peds.2016-3360](https://doi.org/10.1542/peds.2016-3360)

The online version of this article, along with updated information and services, is located on the World Wide Web at:
/content/139/6/e20163360.full
Time for a Paradigm Shift?
Comparing the tools

- **Finnegan**
  - 21 items
  - Drug for high score
  - Requires disturbing patient

- **Eat Sleep Console**
  - 3 items
  - Drug if NAS affects normal function
  - Behavior observation
Eat, Sleep, Console (ESC) Approach

• First Line Non-Pharmacologic Care
  • Parental involvement
  • Low stimulation environment

• Finnegan score (FNASS) in well baby. If FNASS >8, transferred to Pediatric unit

• ESC guided management
Eat Sleep Console (ESC) Approach

Can infant eat ≥1 ounce per feed or breastfeed well?
   Yes
   No

Can infant sleep ≥1 hour?
   Yes
   No

Can infant be consoled within 10 minutes?
   Yes
   No

Infant is considered to be well managed and no further interventions are necessary

Nonpharmacologic interventions increased if possible:
- Feeding on demand
- Swaddling and holding
- Low-stimulation environment
- Parental presence

Not Improved

Start morphine at 0.05 mg/kg per dose every 3 hours or increase dosing by 0.01 mg/kg per dose

ESC Outcomes

- Decreased opioid exposure and hospital utilization
  - Morphine Treatment: 98 → 14%
  - Length of Stay: 22.4 → 5.9 days
- Breastfeeding: 11 → 20%
- Decreased Cost by 77%
- No Readmissions

Opioid treatment rates among infants with NAS/NOWS

<table>
<thead>
<tr>
<th></th>
<th>Opioid treatment (%)</th>
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<tbody>
<tr>
<td>Wachman</td>
<td>90</td>
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<tr>
<td>Blount</td>
<td>90</td>
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<tr>
<td>Achilles</td>
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<td>Dodds</td>
<td>50</td>
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<tr>
<td>Parlaman</td>
<td>60</td>
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<tr>
<td>Townsend</td>
<td>70</td>
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</table>

FNASS    ESC

california perinatal quality care collaborative
Length of stay among infants with NAS/NOWS

Mean length of stay (days)

- Wachman
- Blount
- Achilles
- Dodds
- Parlaman
- Townsend
- Ponder

FNASS  ESC

california perinatal quality care collaborative
“[The doctors wanted to focus on] his sleeping, his eating, like I said, pooping: if he was pooping and peeing normal. I guess they just wanted him to be doing stuff that normal babies were doing.”

“They didn’t really check her as much as my son. They came in a lot and did the assessment with him a lot more than they did with her. He didn’t like any of that; it was a lot of for him.”

“I was actually expecting to be here for a week and a half. But we actually weren’t there as long as I thought we were going to be.”

McRae et al, *Hospital Pediatrics*, 2021
Additional Concerns

Care Location: Mom baby only, NICU (level 2-4), Pediatrics

Medication: morphine, methadone, clonidine, phenobarbital

Medication dosing: prn vs scheduled

Long term: unknown
Q&A Panelists

Joanne Kuller, CNS at UCSF Oakland

Lee Trope, Pediatrician at Santa Clara Valley Medical Center

Moderated by Angela Huang, RNC-Nic, BSN, MPH & MatEx Co-Chair
Please submit your questions in the Q&A box.
Mother & Baby Substance Exposure Toolkit

This toolkit introduces best practices to support and improve the quality of care for substance exposed mothers and newborns.

Throughout the toolkit, the terms mother or maternal or she or her are used in reference to the birthing person. We recognize not all birthing people identify as mothers or women. We believe all birthing people are equally deserving of patient-centered care that helps them attain their full potential and live authentic, healthy lives.
If your NICU is interested in learning more about the MatEx database, submit a help ticket at: www.cpqcchelp.org