ESC in the NICU: A New Approach to an Old Problem

IMPLEMENTATION AT HILLCREST MEDICAL CENTER
HMC NICU

- 40 bed, Level 3 unit
- 2000 births/year, 650 NICU admissions
- Open unit, pod system design
- 2 isolation rooms, 1 procedure room
- 2 rooming-in rooms in the unit, 2 potential in L&D
- Very medically and socially high-risk population
- Historically used Finnegan Scoring System
  - Long length of stay
Why Change?

- Reduce pharmacologic treatment
  - Morphine not benign
  - Long-term effects not known
- Reduce LOS
- Reduce cost
- Simplify and decrease variability in scoring
- Encourage collaboration between nurses, providers, and parents
- Family-centered care
The Plan: Educate First

- Go Live date of September 1st, 2019
  - Start in NICU only, Finnegan continues in NBN
- Train all NICU staff
  - 80 nurses, 10 NNPs, 7 Neos, support staff
- Identify ESC “champions”
- Educate OB staff and residents
The Plan: Change our Mindset

- Focus on function not symptoms
- Focus on comfort not alleviation
- Focus on the whole baby not individual parts
- Focus on manageability not resolution
- ESC is a shift in thinking: We are not denying a baby is withdrawing, we are just changing how we approach and treat it.
The Plan: Change Our Approach

- **Change bed location**
  - Old - All together in one corner
  - New - Separate and isolate when possible, low lighting, quiet

- **Change staffing grid**
  - Old - 1:3-4
  - New - 1:2 most of the time

- **Invest in change**
  - Sound machines, swings, portable monitors, baby carriers
The Process: Screening

- Identify at-risk babies
  - Limited or lack of prenatal care (<5 visits)
  - Concerning maternal behaviors
  - History of use in the last 3 years
  - Positive screen at or after 20 weeks gestation
- Prenatal OB education in the outpatient clinics
- Prenatal consult at time of delivery
- Cord stat sent
- 5 days of observation
The Process: Observation

- First 48hrs spent with mom in Mother-Baby Unit
- Transfer to NICU at or around 48hrs to complete 5 day observation period
- Offer rooming-in as appropriate and able
- DHS consult
- Epic Documentation
  - Flow sheet work-around
<table>
<thead>
<tr>
<th>Component</th>
<th>Yes/No</th>
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<tbody>
<tr>
<td><strong>Eating</strong></td>
<td></td>
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<tr>
<td>Poor eating due to NAS?</td>
<td></td>
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<tr>
<td><strong>Sleeping</strong></td>
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<td>Sleep &lt;1hr due to NAS?</td>
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<td><strong>Consoling</strong></td>
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<td>Able to console within 10 min?</td>
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<td><strong>Parental Presence</strong></td>
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<td>Is a care partner present?</td>
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<td><strong>Management Decision</strong></td>
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<tr>
<td>Recommend a team huddle?</td>
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</tbody>
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The Process: Treatment

- Focus on non-pharmacological treatments first
  - Swings, pacifiers, cuddling, effective feeds, diaper rash treatments

- Morphine prn if needed
  - Starting dose of 0.04mg/kg
  - Phenobarb is second-line
Baby wearing
The Results: Undeniable

- Decreased LOS
  - Mirroring national data
- Decreased morphine treatment
  - Both in number of doses and overall dosage amount
- Decreased cost
- Increased family satisfaction
- Increased nursing and provider satisfaction
ESC Concerns

- Changing attitudes are hard
- Will babies be missed?
- Will babies be undertreated?
- What about GI symptoms?
Challenges to HMC

- Open unit
  - Difficult to keep a low-stimulation environment
- Limited ability for parents to room-in
  - Limited rooms
  - COVID
- High-risk population
  - High rate of DHS involvement
Continued Growth and Challenges

- Expanded to NBN July 2020
  - All Mother-Baby staff trained
  - Successful implementation
- Joined OPQIC
- Considering changing 48hr rule
  - Expanding to when moms are discharged
- Watch the pendulum
  - Swinging to undertreating
- OB struggles
Take Home Message

- ESC changes how we approach and treat NAS in a positive way that is easily adaptable for most, if not all NICUs.
- Better care for babies
- Cost effective
- Tools and process are easy to understand and use
- Improvement is easy to see and measure
- Change in attitudes is easier than expected
- Parental involvement is great but not a deal-breaker if not there
- If we can do it, anyone can!