Welcome!

Neonatal Teams

NAS Project

Ohio Perinatal Quality Collaborative
Finnegan Scoring: Increasing Your Inter-rater Reliability

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Session Objectives

1. Participants will describe steps to attain greater inter-rater reliability amongst their nursing staff

2. Participants will identify 1-2 strategies to overcome barriers to attaining inter-rater reliability
Outline

• 1. Importance of NAS Assessment
  • what are we assessing?
  • why use a tool?

• 2. Finnegan Assessment Tool and scoring
  • how to use the Finnegan
  • key definitions

• 3. Establishing and maintaining inter-rater reliability
  • what is inter-rater reliability?
  • why and how to establish it
Importance of Assessment: what are we assessing?

**Opioids**

Readily cross placenta, decrease brain growth and development

Neonatal Abstinence Syndrome (NAS) = irritability of GI, CNS, ANS:

- irritability, tremors, seizures, poor sleep
- high pitched crying
- diarrhea, overeating, emesis
- hypertonic, poor suck
- restlessness
- sweating
Importance of Assessment: what are we assessing?

**SSRI**
- Readily crosses placenta
- CNS irritability
- Feeding problems
- Sleep disturbances

**Alcohol**
- Significant concentrations in fetal and maternal compartments
  - poor tone and suck
  - restlessness
  - excessive cry
  - poor sleep
Importance of Assessment:
what are we assessing?

**Nicotine**

concentration higher in fetal compartment than maternal
tremors

**Marijuana**

THC easily crosses placenta; 11-nor-9carboxyTCH does not
Remains in body up to 30 days, increases fetal and neonatal
exposure

Decreased self-quieting ability
increased fine tremors and startles, hand to mouth activity
sleep pattern changes
Importance of Assessment: what are we assessing?

• Neonatal Withdrawal
  • Onset: 24 hours to days
  • Duration: 16 days to months, self limiting

• AAP Monitoring Recommendations:
  – Minimum 2-3 days for any maternal history of drug use
  – 5-7 days if mom on multiple and/or long acting drugs
Assessment: why use a tool?

- 2005 study: 81% centers surveyed use assessment tool, 52% have guidelines
- Allows for “common language”, decrease variability, improve parent communication/involvement
- Based on opiate withdrawal
  - One tool for all substance withdrawal?
- Confounding factors
  - Term vs preterm vs beyond neonatal period
  - Staff training and competency maintenance
  - Subjectivity
NAS Assessment Tools

- Finnegan Neonatal Abstinence Scoring Tool
- Neonatal Withdrawal Inventory (NWI)
- The Neonatal Narcotic Withdrawal Index
- The Neonatal Drug Withdrawal Scoring System (Lipsitz)
- Ostrea Tool
- Neonatal Drug Withdrawal Scoring System (NDWSS)
<table>
<thead>
<tr>
<th>Scale</th>
<th>Finnegan</th>
<th>Neonatal Withdrawal Inventory (NWI)</th>
<th>Neonatal Narcotic Withdrawal Index (NNWI)</th>
<th>Lipsitz</th>
<th>Ostrea</th>
</tr>
</thead>
<tbody>
<tr>
<td>N DOL</td>
<td>Term neonates up 28 DOL</td>
<td>80 term neonates</td>
<td>24 hours old, 50 FT methadone exposed vs 40 FT non-exposed</td>
<td>41 neonates 35-40 GA</td>
<td>196 neonates 37 GA</td>
</tr>
<tr>
<td>Scored items</td>
<td>31 items Scale 1-5</td>
<td>7 items Scale 0-4</td>
<td>7 items + “other” Scale 0-2</td>
<td>11 items Scored 0-3</td>
<td>6 items Rank order</td>
</tr>
<tr>
<td>Withdrawal assessed</td>
<td>Opiates</td>
<td>Opiate (methadone, heroine)</td>
<td>Opiate (Methadone 40-65 mg/day, +/- heroine)</td>
<td>“narcotic addicted mothers”</td>
<td>Opiate (methadone &gt; or &lt; 20 mg/day; heroine)</td>
</tr>
<tr>
<td>Comments</td>
<td>Comprehensive Complex Originally developed as clinical research tool</td>
<td>Tx at score of 8 Established inter-rater reliability, sensitivity, specificity</td>
<td>Tx for 2 scores 5+ in 24 hrs Established reliability, inter-rater reliability</td>
<td>Highly subjective (yes/no, normal/abnormal) Compared healthy term and near term to NAS</td>
<td>No guidelines for therapy Not comprehensive</td>
</tr>
</tbody>
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About the Finnegan

- Originally developed in 1975; “Modified” in 1986
- 200 term, opiate exposed newborns
- Assessed from the beginning of one feeding til the beginning of the next feeding, Q 3-4 hrs
  - Challenging with breastfed neonates
- Recommended: start scoring at 2 hours of age; if score= 8, continue to score Q2 hrs until less than 7
- OPQC treatment protocol: begin treatment for 2 consecutive scores of >8 or one score ≥12.
Scored Items

**Central Nervous System**
- Excessive Crying (2-3)
- Sleep (1-3)
- Hyperactive Moro (2-3)
- Tremors (1-4)
- Increased muscle tone (2)
- Excoriation (1)
- Myoclonic jerks (3)
- Convulsions (5)

**Autonomic Nervous System**
- Sweating (1)
- Fever (1-2)
- Frequent Yawning (1)
- Mottling (1)
- Nasal Stuffiness (1)
- Sneezing (2)
- Nasal Flaring (2)
- Resp rate (1-2)

**Gastrointestinal System**
- Excessive sucking (1)
- Poor feeding (2)
- Regurgitation (2)
- Projectile Vomiting (3)
- Stools (2-3)
How to Use the Finnegan

- NeoAdvances© Video
What is Inter-Rater Reliability?

**Inter-rater Reliability** = extent to which 2 providers agree when using the same tool.

**Method** = one person scores, while another observes; each independently scores, then compare

**Goal** = 90% inter-rater reliability
Maintaining Inter-Rater Reliability

2013 NCH Staff Survey on Finnegan Scoring:

• 67% of RN staff responded
• 15.2% felt somewhat or not comfortable
  concerns: scoring of sleep for older babies, excoriation
• 37% wanted more education/training
• 26% of staff were not conducting inter-rater reliability scoring properly
Maintaining Inter-Rater Reliability

2013 all RNs watched: “Assessing signs and symptoms of Neonatal Abstinence using the Finnegan Scoring Tool” video from NeoAdvances

Unit-based NAS Super Users reeducated all staff

Lunch n’ Learns with 2013 VON iNICQ NAS Webinars

Dual score minimally once every 12 hours with an NAS Super User or an NNP

2013 reliability scores= 98%
Questions?
References

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