Neonatal Abstinence Syndrome
Rethinking Our Approach

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Goals and Challenges for Hospital Stay - Define our Primary Goal

Shorten length of stay
versus
Decrease treatment rate

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"Withdrawal from opioids or sedative-hypnotic drugs may be life-threatening, but ultimately, drug withdrawal is a self-limited process. Unnecessary pharmacologic treatment will prolong drug exposure and the duration of hospitalization to the possible detriment of maternal-infant bonding. The only clear benefit of pharmacologic treatment is the short-term amelioration of clinical signs."

Hudak ML, Tan RC; COMMITTEE ON DRUGS; COMMITTEE ON FETUS AND NEWBORN; American Academy of Pediatrics: Neonatal drug withdrawal. Pediatrics 2012; 129:e540–e560

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Sources of variation in treatment rate and length of stay for infants with NAS

- Mother's opiate exposure
- Feeding choice
- Rooming-in
- Treatment choice
- Genetic make-up

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Engaging the Families During Inpatient Stay
What are the main challenges to families?

- Medical environment and model – not prepared for observation period or medical treatment
- Provider inconsistency – lack of trust
- Competing demands – families, children, medication appointments, transportation, housing, dysfunctional relationships
- Treatment means a 3 to 4 weeks length of stay
- Parents are challenged by competing family obligations, appointments, judgment
- Leaves baby unattended by parent for periods of time each day
- Babies can have attachment and state disorders that are confused with withdrawal signs prolonging treatment

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Goals and Challenges for Hospital Stay - Define our Primary Goal

- Decreasing length of hospital stay during treatment unfortunately forces us to find the edge of tolerable withdrawal as we decrease doses.
- This reinforces poor state control in these high-risk infants.
- Can't be good for the developing brain
- Moves us toward using 2nd drugs since we use these as a crutch to support inpatient weaning

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SO, LET'S TALK ABOUT SCORING SOME MORE

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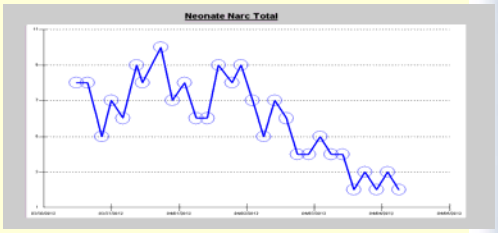
SYSTEMS	SIGNS AND SYMPTOMS	SCORE	AM 2	4	6	8	10	12	PM 2	4	6	8	10	12	DAILY WT.
CENTRAL NERVOUS SYSTEM DISTURBANCES	High Pitched Cry	2													
	Continuous High Pitched Cry	3													
	Sleeps < 1 Hour After Feeding	3													
	Sleeps < 2 Hours After Feeding	2													
	Hyperactive Moro Reflex	2													
	Markedly Hyperactive Moro Reflex	3													
	Mild Tremors Disturbed	2													
	Moderate Severe Tremors Disturbed	3													
	Mild Tremors Undisturbed	1													
	Moderate Severe Tremors Undisturbed	2													
	Increased Muscle Tone	2													
	Excoriation (specify area): _____	1													
	Myoclonic Jerks	3													
	Generalized Convulsions	3													
METABOLIC VASOMOTOR/ RESPIRATORY DISTURBANCES	Sweating	1													
	Fever < 101°F (39.3°C)	1													
	Fever > 101°F (39.3°C)	2													
	Frequent Yawning (> 3-4 times/interval)	1													
	Mottling	1													
	Nasal Stuffiness	1													
	Sneezing (> 3-4 times/interval)	1													
	Nasal Flaring	2													
	Respiratory Rate > 60/min	1													
	Respiration Rate > 60/min with Retractions	2													
GASTROINTESTINAL DISTURBANCES	Excessive Sucking	1													
	Poor Feeding	2													
	Regurgitation	2													
	Projectile Vomiting	3													
	Loose Stools	2													
	Watery Stools	3													
SUMMARY	TOTAL SCORE														
	SCORER'S INITIALS														
	STATUS OF THERAPY														

Adapted from Finnegan L. Neonatal abstinence syndrome: assessment and pharmacotherapy. Neonatal Therapy: An update, F. F. Rubaltelli and B. Granti, editors. Elsevier Science Publishers B.V. (Biomedical Division). 1986: 122-146

NAS Scoring to Evaluate Signals for Treatment



- Baby born to a mother on methadone maintenance (65 mg daily)
- Observed for 6 days without treatment

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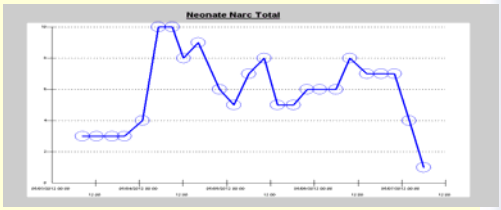
NAS Scoring to Evaluate Signals for Treatment



- Baby born to a mother on methadone maintenance (33 mg daily)
- Observed for 6 days without treatment

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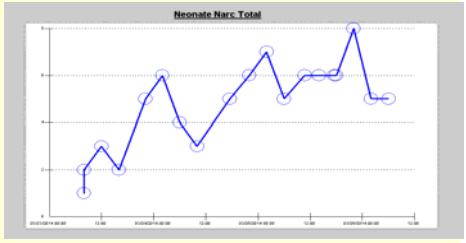
NAS Scoring to Evaluate Signals for Treatment



- Baby exposed to Subutex, observed for 5 days
- Mother exclusively breast-feeding

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NAS Scoring to Evaluate Signals for Treatment

- Consider Finnegan Scoring as a tool
- Understand the elements of the tool
- Use it as a signal and consider adapting a more functional scoring approach

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What signs of withdrawal do we really care about?

Define our Primary Goal

- Can the baby eat?
- Is there significant vomiting, poor coordination of suck, diarrhea?
- Can the baby sleep?
- Can the baby be consoled?

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Goals and Challenges for Hospital Stay

- Focus on non-pharmacologic care – Hugs not Drugs
  - Enlist parents
  - These infants have a disorder of their pain system and an inability to have normal state control
  - Anticipate and treat any discomfort – hunger, diaper rash, GERD
  - Minimize challenges to their inability to cope with state control – e.g., Feed first then change diaper

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Abraham, et al. J Obstet Gynaecol Can 2010;32(9):866–871

What are parents worried about?

- That they will be judged – "methadone mother"
  - By Providers
  - By their own family
- Lack of understanding by those in charge of services they need
  - WIC
  - Shelters
  - Transportation often based on NTP and are not available to EMMC
  - Barriers to frequent hospital visitations
- Babies will be stigmatized – "methadone baby"
- *Birth defects during pregnancy*
- *Is my baby going to be normal?*
- Terrified of losing baby to DHHS even though they have done the "right things"
- Knowing how to do the NAS scoring "right'"
- Feeling that they can never do enough according to some nursing staff

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What works well for parents?

- Prenatal groups at replacement Centers
- Participation in research about infant development
- Public Health Nursing in the home
- Advanced notice of DHHS involvement
- Maine Families
- Gas cards, taxi vouchers, housing
- Some providers are very respectful – being listened to and concerns validated

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"His nurse was like 'his muscles are locking up because of his junkie mom'. I didn't want to visit, I would call before and if that nurse was there, I wouldn't even go."

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"…because we're gonna leave and he's gonna cry and they're gonna leave him crying because they're gonna be like, 'you know what? His parents are jerks!'"

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"Post-NAS Syndrome"

- After withdrawal, the pain system has to recover
- The pain and discomfort behaviors need time to remodel
- Environment still needs to be modified
- The emergence of the quiet alert state takes time and needs to be reinforced to support development of state control

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The Biggest Lesson Learned?

The Window of the "Learning Moment" for the Mother is the Cornerstone for Attachment and a Stepping Stone in Mother's Recovery