The Role of the Developmental Therapy Team in the Non-Pharmacologic Management of the Infant with NAS

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The Role of the Developmental Therapy Team in the Non-Pharmacologic Management of the Infant with Neonatal Abstinence

Developmental Care Team

• Occupational and Physical Therapy
  – Standard order set upon admission to NICU with NAS

• Speech Therapy
  – Ordered if feeding difficulties identified by team
Goals of Developmental Treatment

• Decrease signs/symptoms of withdrawal
• Promote mother/infant bonding
• Help prevent abnormal neurodevelopment
• Improve feeding and weight gain
• Decrease LOS
Narcotic Abstinence Syndrome (NAS): The non-pharmacological approach

ALL infants with suspected NAS, should be treated with a non-pharmacologic bundle regardless of medication treatment.

- Common signs and symptoms of NAS include (can be seen on NAS scoring tool):
  - CNS irritability (jitteriness, high pitched cry, hypertonia)
  - Gastrointestinal dysfunction (frequent spits, loose or watery stools)
  - Respiratory distress (tachypnea, nasal congestion, sneezing)
  - Autonomic signs of stress (sweating, hiccups, frequent yawning)
  - Frantic or excessive sucking
  - Feeding and Sleep issues

For scores greater $\geq 8$ for two consecutive scores or any score $\geq 10 \rightarrow$ Notify the Nurse Practitioner or Physician immediately

Please refer to full policy for complete details.
Here are some helpful non-pharmacologic interventions that can be used:

- Maintain a low stimulation environment, keeping the lights dimmed and noise to a minimum. Speak quietly.
- Arouse the infant slowly with gentle handling. Stop caregiving tasks momentarily if the infant is showing signs of stress.
- Swaddle the infant.
- Gentle, slow VERTICAL rocking of the infant in your arms.
- Provide the infant a pacifier or fingers to suck on.
- Offer frequent feeds when showing cues of hunger (i.e. rooting).
- Respect SLEEP. Allow the sleeping infant to rest. Only wake if feeding is necessary.
- Encourage parents to be present in the room, encourage them to hold the infant often or to Kangaroo.
- Utilize our volunteers, PCA’s, and child life specialists when able to help with frequent holding.
- Utilize our therapy team to help promote development, perform stretching and massage as well as provide parent education.

Please refer to full policy for complete details.
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May 2, 2016

Parent/Caregiver Education Materials

Neonatal Abstinence Syndrome
A Guide for Families

Shhhh...
Remember this baby likes it to be extra quiet and loves to be held and soothed
Parent/Caregiver Education
Developmentally Supportive Care

- Rooming-in
- Kangaroo Care/Holding
- Low Light
  - < 50 dB (AAP recommendation)
  - Silence phones
  - Have conversations outside of room
  - Discourage use of I Pods/Radios
  - Use of appropriately identified recorded music/voice (library of CDs available)
  - White Noise is acceptable (if tolerated)
• **Awaken gently AND only when necessary**
  – Protect sleep

• **Apply the 5-Second Rule**
  – Before touching the infant, speak to them
  – Containment hold for at least 5 seconds
  – Safe human touch 1\(^{st}\) and ALWAYS

• **Provide 2-person care whenever possible**
  – 1 to support the infant, 1 to complete the task at hand
  – Ideally this is a nurse/therapist AND a parent/caregiver
Parent/Caregiver Education
Developmentally Supportive Care

• **Promote flexion/midline position**
  – Discourage arching and extension

• **Swaddling**
  – Mimics fetal position
  – Helps to prevent tremors/erratic movements
  – Helps to promote self-calming behaviors
  – Ideally with hands free or arms flexed towards face
  – Swaddled bathing can be less stressful on infants

• **Pacifier for non-nutritive sucking**
  – Encourages self-soothing
  – Facilitates flexion and neurobehavioral organization
Benefits of Massage

Infants
• Decreased pain/stress response
• Improved sleep/wake cycles
• Improved neurological, sensorimotor and behavioral development
• Improved muscle tone
• Improved bone density
• Improved circulation
• Improved immune function
• Improved temperature stability
• Increased weight gain
• Can help to relieve constipation and gas
• Reduced length of hospital stay

Parents/Caregivers
• Eases stress about separation
• Provides active parenting role
• Decreases maternal depression
• Increases responsiveness of infant
• Optimizes mother-infant interaction
• Increases sense of maternal competence
Benefits of Slow, Rhythmical Movement

- Longer periods of quiet sleep
- Decreased irritability
- Fewer jittery movements
- Increased visual and auditory responses
- Decreased frequency of apnea
- Decreased bradycardia and hypoxia
- Increased weight gain

The Role of the Developmental Therapy Team in the Non-Pharmacologic Management of the Infant
Adjustable Baby Rocker

• Our NICUs use the mamaRoo® for the following reasons:
  – Seat rhythmically moves up and down and from side to side; more “natural” motions that typical swings
  – 5 speed settings (LOW, Medium LOW)
  – Seat adjusts easily to a range of positions (45 degrees)
  – Plays soothing sounds; the volume is adjustable (<50 dB)
  – It plugs in, so batteries are NOT required
Adjustable Baby Rocker
Unit Protocol

• MD order for use
• ≥ 37 weeks
• Clinical Staff (RN, OT, PT, RT) to assess positioning in swing prior to 1st use
• Minimum of an SPO2 monitor
• Approved for use on the floor only
• Seat must be adjusted to 45° angle
• Preferred speed is LOW (can be adjusted to medium low if tolerated)
• Patient to be UNSWADDLED with lower extremities free; ALL fasteners need to be secured low and snug around abdomen. Can cover torso/lower extremities with a blanket.
• Infant MUST be removed if falls asleep or showing any signs of decompensation
• No longer than 60 minutes per use; up to 180 minutes per day
• Encourage supervised tummy time when awake
• OT/PT/ST, Child Life and Music Therapy to provide developmental stimulation is encouraged
• Use of volunteers to hold, read, sing if family/caregiver not available

The Role of the Developmental Therapy Team in the Non-Pharmacologic Management of the Infant
Back to Sleep, Tummy Time to Play

• Developmental Positioning may be helpful initially to minimize s/s of withdrawal but infants need to transitioned to Back to Sleep as soon as possible
  – Requires a physician order

• Safe sleep is defined as an infant sleeping on its back, with the head of bed flat, one fitted sheet and with no other objects in the crib

• Infant’s head and face needs to remain uncovered
  – Includes headbands and hats

• Use of a pacifier is recommended

• Vary direction of head to prevent neck tightness and/or plagiocephaly

• Use of car seats, strollers, swings, infant carriers and infant slings are NOT recommended for routine sleep at home or in the hospital

• It is important to offer a variety of movement and play opportunities in different positions throughout the day

CRIB CARDS

I have developmental positioning orders. Please see my plan!
Transition Home

- Pediatrician Appointment – 2-3 days after discharge
- NICU Follow-Up Appointment – at 4 months of age
- NICU Transition Clinic Appointment (OT/PT) – if indicated, 4-6 weeks after discharge; sooner if needed
- Referral to Help Me Grow/Early Intervention
- Encourage caregivers to continue treatment, counseling and other support services

The Role of the Developmental Therapy Team in the Non-Pharmacologic Management of the Infant
Mya’s Story
Additional Resources

**creativetherapyconsultants.com**

Provides targeted education on:

- Family-Centered Care
- Swaddled Bathing
- Handling & Caregiving
- Skin to Skin
- Neonatal Touch and Massage
  - Nurse & Therapist Certification Courses

**infantdrivenfeeding.com**

Evidence based approach to feeding infants in the NICU that has been proven to decrease LOS and oral aversive behaviors.
Additional Resources

neonataltherapists.com

• Association for neonatal OT/PT/ST

• Provides education, networking resources, and products unique to the neonatal population

• Committed to the advancement of population-specific knowledge, skills and practice


Cleveland Clinic Children’s
Every life deserves world class care.
Breastfeeding and the Provision of Human Milk with Neonatal Abstinence Syndrome
Global Aim:
To reduce the number of moms and babies with narcotic exposure, and reduce the need for treatment of NAS.

Smart Aim:
By increasing identification of and compassionate withdrawal treatment for full-term infants born with Neonatal Abstinence Syndrome (NAS), we will reduce length of stay by 1 day across participating sites by June 30, 2016.

Key Drivers:
- Prenatal identification of Mom
- Implement optimal Med Rx program
- Improve recognition and non-judgmental support for Narcotic addicted women and infants
- Attain high reliability in NAS scoring by nursing staff
- Optimize non-pharmacologic Rx bundle
- Standardize NAS treatment protocol
- Connect with outpatient support and treatment program prior to discharge
- Partner with families to establish safety plan for infant
- Partner with other stakeholders to influence policy and primary prevention

Interventions:
- All MD and RN staff to view “Nurture the Mother - Nurture the Child”
- Monthly education on addiction care
- Full time RN staff at Level 2 and 3 to complete D’Apolito NAS scoring training video and achieve 90% reliability
- Swaddling, low stimulation
- Encourage kangaroo care
- Feed on demand - MBM if appropriate or lactose free, 22 cal formula
- Initiate RX if NAS score > 8 twice
- Stabilization/ Escalation Phase
- Wean when stable for 48 hrs by 10% daily
- Establish agreement with outpatient program and/or Mental Health
- Utilize Early Intervention Services
- Collaborate with DHS/ CPS to ensure infant safety
- Engage families in safety planning
- Provide primary prevention materials to sites
Substance Abuse (Mom) & Neonatal Abstinence Syndrome (Baby)

8% of all babies are treated for NAS \( (n=1211\) births)\)

10% of moms have documented {substance abuse} \( (n=1211\) births)\)

68% of moms who have documented {substance abuse} delivered a baby treated for NAS \( (n=125\) moms)\)

37% of moms who have documented {substance abuse} use Methadone, Subutex and/or Suboxone to treat substance abuse \( (n=125\) moms)\)

Births between Jan-Dec 2015
37% of moms who have documented substance abuse use methadone, subutex and/or suboxone to treat substance abuse.

63% of moms who have documented substance abuse do not have reported treatment.

Treatment drugs reported:
- Methadone only, 4%
- Suboxone/Subutex only, 14%
- Heroin and Methadone only, 5%
- Heroin and Suboxone/Subutex only, 14%
- **Multiple drugs, 34%**

No treatment drugs reported:
- Opiates only, 12%
- *Other, 10%
- Heroin only, 7%

*(Excludes marijuana, alcohol, cigarettes)*

**Other includes: Barbiturates, Benzodiazepines, Cocaine, Methamphetamines, other narcotic analgesics, SSRI**

**Multiple substances recorded other than category of Heroin and Methadone; Heroin and Suboxone/Subutex**

- Summit County discharge nurseries include:
  - Akron Children’s Hospital, main campus
  - Akron General Medical Center
  - Summa Akron City Hospital
- Births between Jan-Dec 2015
- Documented by Akron Children’s Hospital on newborn’s medical chart

n=125 moms
AKRON CHILDREN’S NICU
Single Room
“Vermont Oxford Network Center of Excellence in NAS Education and Training”

- 17 “NAS Micro-Lessons” each of which takes approximately 15 minutes to complete
- Continuing Education credits awarded for each module
- Access to the modules from any internet-enabled device 24/7
- Final completion deadline: March 31, 2016
- All modules have been completed by 256 members of our health care team.
AKRON CHILDREN’S HOSPITAL BREASTFEEDING 2015 DATA
NAS Babies at Breast Feeding

- ACH MAIN
- ACH SUMMA
- ACH AGMC
- ACH St. Elizabeth
- ACH Beeghly

Total NAS Babies vs. Breastfeeding
NAS and Breastfeeding Exclusivity

- ACH MAIN
- ACH SUMMA
- ACH AGMC
- ACH ST. Elizabeth
- ACH Beeghly

Total NAS Babies
Exclusively breastfeeding

Akron Children’s Hospital
Breast Milk at Discharge

- ACH MAIN
- ACH SUMMA
- ACH AGMC
- ACH ST. ELIZABETH
- ACH BEECHLY

- Total NAS Babies
- Breast Milk at Discharge
WOMEN’S RECOVERY GROUP
Provides support for patients with treatment for drugs and/or alcohol abuse, while examining significant women’s issues.

M.O.M.A.T (Mothers on Medically Assisted Treatment)
Provides support to pregnant women and mothers who are receiving medically assisted treatment. Case management services are available to facilitate communication between patients and the hospital to ensure best outcomes for new moms and babies.

EMPOWERING WOMEN IN RELATIONSHIPS
Provides support for women who wish to explore and cultivate more positive relationships. Skill development is designed to increase self esteem and personal coping strategies are taught to women.

STRESS MANAGEMENT WELLNESS GROUP
Focuses on the total well being of the women. In this group women learn how to eat right, control stress and strengthen their bodies.
Breastfeeding Quality Improvement Work
### Project Title: The Provision of Human Milk for Babies with Neonatal Abstinence Syndrome (NAS)

#### Aim:
To improve the provision of human milk by 10% in babies with NAS for the period 2016-2017

#### Measures:
- **Primary Driver-Outcome Measure(s):**
  1. Improve the provision of human milk for babies with NAS
  2. Increase maternal awareness of infants needs
  3. Increased use of evidence-based non-pharmacological bundle via EMR
  4. Checklist completed for inpatient and outpatient pumping and milk storage.

- **Secondary Drivers-Process measure(s):**
  1. Completion of VON Educational modules on NAS: 256 completed

#### Primary Drivers:
- Education and attitude of all staff
- Education and attitude of mother and families
- Treatment of baby with NAS – Non-Pharmacological Bundle vs Pharmacological bundle
- Pumping and breast milk storage inpatient
- Pumping and breast milk storage outpatient
- Housing/transportation
- Medical Home

#### Interventions:
- Review of conflict resolution
- Scripting statements for staff
- VON NAS Educational modules completed: Center of Excellence
- Maternal conflict, counseling as needed
- Reflective of psychological issues, preconceived notions
- Discuss with staff use of non-pharmacological bundle use and outcomes
- Pharmacological treatment only if necessary
- Compose a checklist of needs: pump equipment storage instructions, pumping instructions, daily needs assessment
- Prior to discharge: reassure pump availability; discuss storage options for transport of milk, weekly needs assessment with care team
- Inpatient – discuss plan/review with social work housing/transportation, weekly discuss assessment with care team
- Discussion of the Medical Home through the MFN QUIP.
Breastfeeding and the provision of breastmilk can be a goal!

- Mothers need to know that they can safely provide breast milk to their babies
- Environment that will support their choice of feeding her baby
- Obtaining good history with honest conversations on use and concerns
- Provide mother with education as to why her breast milk is so important for her baby
- Discuss possible reasons why she cannot provide breast milk
- Hepatitis C positive instructions are provided to mother to express breast milk and discard until the area is healed
- Instruction to mothers about the non-pharmacological bundle and that their presence is so needed
- Daily interactions with the healthcare team during rounds
- Follow-up with Lactation Team/Nursing to reinforce success of breastfeeding and the provision of breast milk

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Maternal Infant Recover Clinic

MOMS Columbus, OH
MOMS Franklin County Partners

Nationwide Children's

CompDrug

OhioHealth

Mount Carmel

Central Ohio Newborn Medicine, Inc.

Maryhaven

Amethyst
Background

- Multiple partners
- Maternal Infant Recovery Clinic (MIRC)- ‘one-stop shop’ for all services during pregnancy
- One day/week- Thursday afternoon
Maternal Infant Recovery Clinic (MIRC)
500 E. Main St.

- Group & Individual AOD Counseling
- MAT-Suboxone
- Mentor Support
- Prenatal Obstetrical Care
- Clinic staff
- Nursing

Pregnant Woman
- Tobacco cessation & job counseling
- 6-week postpartum & RL visit
- Initial Meeting with Neo at 36 wks GA
- Neo Baby visit, if needed
## MOMS Franklin County Partners

<table>
<thead>
<tr>
<th>Organization</th>
<th>Role</th>
</tr>
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<tbody>
<tr>
<td>CompDrug</td>
<td>Project lead, tobacco cessation, job counseling, postpartum MAT and AOD site</td>
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<tr>
<td>Nationwide Children’s Hospital</td>
<td>Clinic site with clinical staff support for all services during pregnancy, Pediatric care, Neurodevelopmental follow-up, if needed</td>
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<tr>
<td>Ohio Health</td>
<td>Prenatal Obstetric Care, MAT, Delivery service, Primary Care for Mom</td>
</tr>
<tr>
<td>Mount Carmel</td>
<td>Prenatal Obstetric Care, MAT</td>
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<tr>
<td>Central Ohio Newborn Medicine</td>
<td>Neonatal Service</td>
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<tr>
<td>Maryhaven</td>
<td>Behavioral and AOD counseling services during and after pregnancy, care coordination, mentor community support</td>
</tr>
<tr>
<td>Amethyst</td>
<td>Short-term residential care, as needed for mom &amp; baby post-delivery</td>
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Labor & Delivery Tour Goals

- Improve engagement of nursing at delivery hospital
- Increase comfort level of patients with the delivery hospital
- Improve expectations of patients with the delivery hospital
Labor & Delivery Tour Team

- Nurse educators (experienced on L&D, PP and lactation)
- Social worker (from MIRC)
- Mentor (from MIRC)
- Physician (from MIRC & part of delivery team)
- Patient and her support person (both from MIRC & additional MAT programs)
Labor & Delivery Tour

- Education
  - What to expect on L&D
  - Neonatal Abstinence Syndrome (NAS)
  - Breastfeeding
  - Rooming in
  - Skin to skin
  - Pain control
Labor & Delivery Tour

- Tour
  - Labor & delivery
  - Postpartum unit
  - Neonatal Intensive Care Unit
Next Steps

- Set L&D tour schedule
- Identify the best “number” of participants at one time
- Obtain additional feedback
  - Nursing staff: “I think that tour was great. The patient I met delivered the next week and she did great with her baby and it was so nice to take care of her.”
- Patients appear to have less questions after the tour and possibly less anxious
Patient Experience of Maternal Infant Recovery Clinic (MIRC)
Through collaborative use of improvement science methods, reduce preterm births & improve perinatal and preterm newborn outcomes in Ohio as quickly as possible.