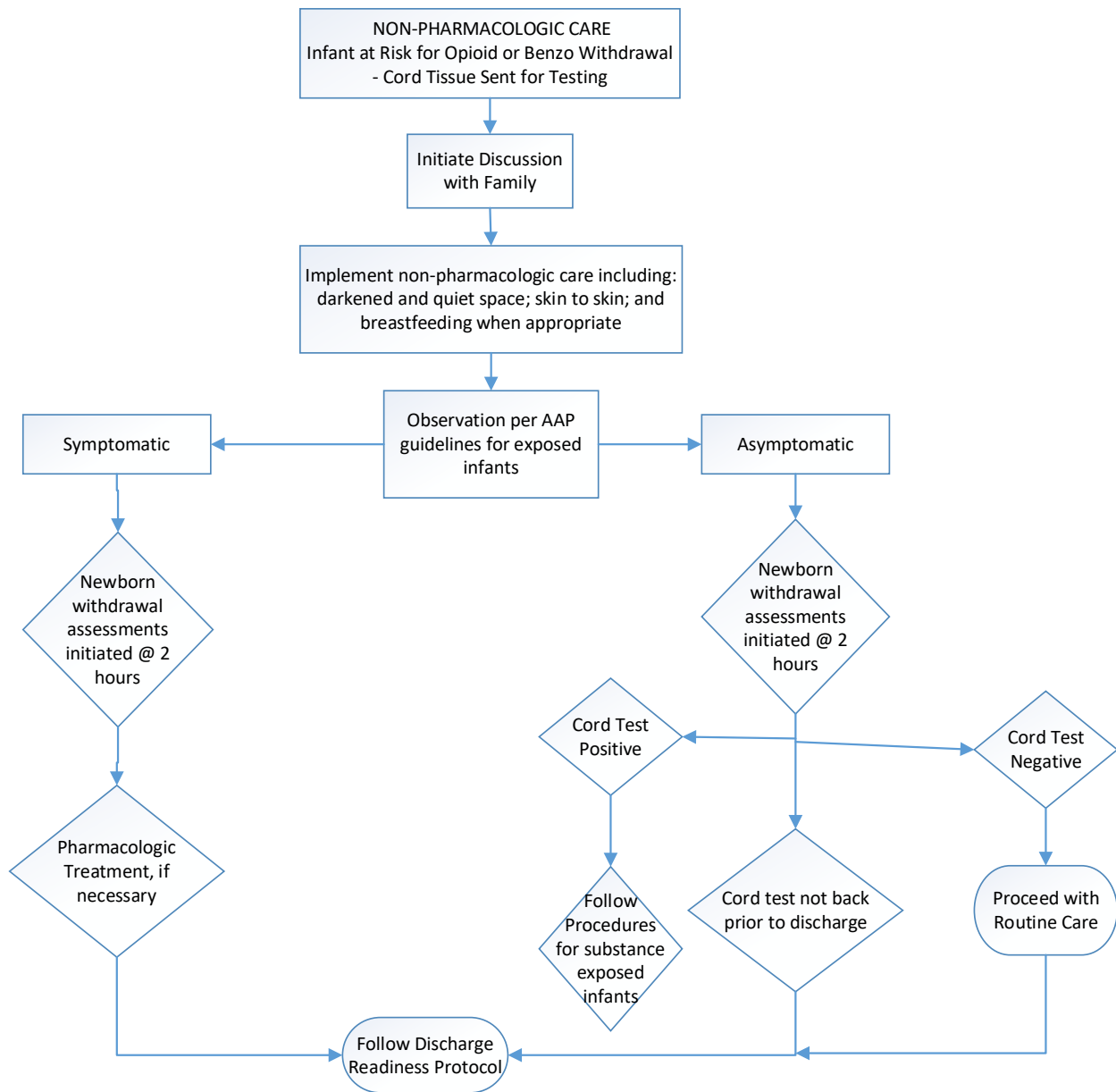




## NON-PHARMACOLOGIC TREATMENT GUIDELINES



Implementation of non-pharmacologic treatment interventions for NAS, such as rooming-in, breastfeeding, skin-to-skin care, swaddling, and decreasing environmental stimuli have been shown to decrease the length of hospitalization and the length of pharmacologic treatment. When there is known or suspected intra-uterine exposure to opioids and/or benzodiazepines, a toxicology screen is necessary for the newborn. A newborn urine drug screen should be ordered in addition to the cord tissue screen. If tests have been ordered, newborns should be scored for neonatal withdrawal beginning at 2 hours of age, whether they exhibit symptoms of neonatal abstinence syndrome or not. Two scoring tools have been identified by the IPQIC Perinatal Substance Use Collaborative for assessment of neonatal withdrawal: the Finnegan Scoring Tool and the Eat, Sleep, Console approach. While the Finnegan scoring tool has been in use as a gold standard since it was first published in 1975, Eat, Sleep, Console has emerged in recent years as a valid alternative method of assessment and guideline for treatment of Neonatal Abstinence Syndrome.

### Finnegan Scoring Tool

The Finnegan tool is a reliable and valid tool which scores a series of behaviors that indicate how much the baby is withdrawing and/or the effectiveness of treatment. Finnegan scoring is implemented within 2 hours of birth if an umbilical cord was sent for toxicology due to a maternal positive or refusal of urine drug screen or can be implemented if it is suspected that the baby is going through withdrawal. The nurse will score a baby every 2-4 hour on 20 individual parameters.

Parameters	
• Crying	• Yawning
• Sleeping	• Mottling
• Moro Reflex	• Nasal Stuffiness
• Tremors disturbed	• Sneezing
• Tremors undisturbed	• Nasal Flaring
• Muscle Tone	• Respiratory Rate
• Excoriation	• Sucking
• Convulsions	• Feeding
• Sweating	• Regurgitation
• Fever	• Stools

Finnegan scores less than 8 can be managed with non-pharmacologic measures (i.e. rocking, swaddling, non-nutritive sucking). Two or three consecutive scores totaling  $\geq 24$  would indicate the possible need for medical intervention and must be reported to the Primary Care Physician (PCP) or Licensed Independent Practitioner (LIP).

### Eat, Sleep, Console

The number of in-utero opioid exposures continues to rise nationally and infants at risk for experiencing Neonatal Abstinence Syndrome (NAS) must be assessed by a tested scoring method to determine treatment. Increasing scores can lead to extended treatment, length of stay and

increased costs of care. In addition, treatment currently requires significant exposure to opiates to treat withdrawal.

By utilizing the Eat, Sleep, Console tool, a functional based nursing assessment tool, interventions are used to support the neonate in an effort to reduce the amount morphine used for treatment and to reduce the length of stay while providing a supportive care environment. New research suggests that function-based assessment could reduce medication treatment rates and improve outcomes. Treatment of withdrawal with the use of opiates extends length of stay and cost and comes with the outcome of exposure to opiates as a neonate.

This program can also use educational interventions to try to reduce the stigma around neonatal exposure and withdrawal in order to provide family centered care and outcomes supportive to the family unit. This can be done by the formation of a Multi-Disciplinary team to understand the goals of ESC and provide staff resources and education. Additional support resources for infant consoling including developmental aids, caregivers and “cuddlers” should be considered.

### Parent Conversations

Ideally, conversations with parents should begin prenatally concerning the potential for their baby to experience NAS when there is a known drug (prescription or non-prescription) exposure. Once in the hospital, if drug exposure was identified prenatally and/or is now identified by a maternal positive verbal screen, maternal positive urine drug screen, or maternal refusal of screening, conversations with parents should be implemented as soon as possible explaining the subsequent care and treatment of their baby. Conversations should include information about the potential adverse effects of the medication(s), the signs and symptoms of withdrawal and how the parents can help manage symptoms if they occur. Additional conversation topics should include safe sleep practices and understanding a baby’s feeding cues. Handouts for parents containing non-pharmacological interventions could be useful.

Once an infant has been identified as at-risk for substance exposure in utero, the infant’s cord tissue is sent for testing and Finnegan scoring is implemented within 2 hours of birth. There are two pathways that have been identified. One is for infants that are symptomatic prior to receipt of laboratory results. The other pathway is for infants at risk but are asymptomatic.

### Procedures for Substance Exposed Infants

When an infant first develops signs of NAS, as indicated by scoring, non-pharmacologic interventions should begin. The following interventions are cited in the literature:

- 1) Decreasing environmental stimuli
  - a. Dim lighting
  - b. Quiet environment (i.e. muted tv, lowered voices of staff and visitors)
  - c. Minimal disruptions to sleep/sleep protection
- 2) Rooming-In with mother
- 3) Skin-to-skin care with mother and/or other caregivers (1 hour after feedings)

- 4) Active engagement of mother and/or other caregivers
- 5) Breastfeeding when appropriate (mother is compliant with MAT)
- 6) When breastfeeding is not possible, consider high calorie lactose free formula
- 7) Swaddling
- 8) Pacifier use/non-nutritive sucking
- 9) Massage therapy
- 10) Swaddled Immersion Bathing

### Individualized Plan of Care (RN, OT, PT, SLP)

When resources are available, an individualized plan of care for the affected newborn should be developed and include physical therapy, occupational therapy, and speech language therapy. Developmental Care Team consists of Occupational and Physical Therapists with specialized training for the neonatal population. Rehab Consult orders are placed by providers and routed to the developmental care team.

Goals of Developmental Care Team include:

1. Decrease signs/symptoms of withdrawal
2. Support sleep cycles
3. Improve feeding and weight gain
4. Modulate sensory experience
5. Support age-appropriate development
6. Promote mother/infant bonding
7. Decrease length of stay

The frequency of developmental care team interventions varies depending on the age of the infant and on-going needs assessments by the team. Interventions of the developmental care team could include:

- 1) Protect sleep
  - a) Safeguarding sleep states, gentle awakening for care ONLY when necessary in order to decrease sleep disturbances
- 2) Modulate environment
  - a) Adjusting light, noise level, tactile and vestibular input in order to decrease sympathetic responses to external stimuli and improve behavioral state organization and autonomic function
- 3) Assist with infant self-regulation
  - a) Containment strategies through swaddling to support physiological flexion, prevent tremors and myoclonic jerking
  - b) Vestibular stimulation through vertical rocking during infant disorganization to decrease neurological hyperactivity and facilitate relaxation
  - c) Use of developmental positioners to provide boundaries in order to reduce energy expenditure and promote weight gain while maintaining compliance with the safe sleep policies of the individual organization
  - d) Auditory input through soothing sounds to induce quiet alert state

- 4) Promote pre-feeding skills
  - a) Allow the infant hand-to-mouth opportunities to assist in self-regulatory behavior
- 5) Massage/therapeutic touch
  - a) Minimization of negative touch experiences and enhancement of positive touch experience through infant massage
  - b) Gentle, firm pressure to avoid triggering hyperactive Moro reflex
  - c) Promote skin-to-skin contact with mother to nurture strong maternal-infant interaction and decrease neurologic disorganization
- 6) Range of Motion
  - a) Passive Range Of Motion (PROM) to reduce hypertonicity and support motor and tone development
  - b) Support normal rhythmicities to reduce abnormal rhythmic behaviors
- 7) Caregiver education
  - a) Facilitate supportive parenting behaviors
  - b) Promote parent-child interaction to reduce parental stress
  - c) Safe sleep education
  - d) Promote participation in early intervention programs post discharge

If the infant becomes symptomatic at any time and non-pharmacologic interventions are not successful in alleviating the signs and symptoms of NAS, pharmacologic treatment is warranted.