

# Neonatal Transport

*The Newsletter of the Maryland Regional Neonatal Transport Program  
March 2011*

## NEONATAL ABSTINENCE SYNDROME (NAS)

Neonatal Abstinence Syndrome (NAS) can occur in two ways (a) by the passive exposure of opiates, in utero as a consequence of maternal addiction to heroin, methadone and other narcotic analgesic and (b) iatrogenically by the administration of opiates such as fentanyl, morphine and methadone for analgesia and sedation.

Neonatal abstinence is described as a generalized disorder, characterized by central nervous system (CNS) hyperirritability, gastrointestinal dysfunction, respiratory distress and autonomic dysfunction.

At birth most infants exposed to narcotic appear physically and behaviorally normal. Symptoms of withdrawal begin shortly after birth to 2 weeks of age, although most infant symptoms are exhibited within 72 hours. Infants exposed to Methadone may have onset beyond 2 weeks.

Acute clinical signs and symptoms may persist for several weeks and sub acute signs and symptoms may persist for 4 to 6 months. Acute signs and symptoms are restlessness, tremors, (present when disturbed progressing to present when undisturbed) high pitched crying, increased muscle tone, irritability and inconsolability, increased deep tender reflexes and exaggerated Moro and increased rooting reflex. The most serious development is seizure activity. Subacute sign and symptoms are irritability, sleep pattern disturbance, hyperactivity, feeding problems and hypertonia. Others include

wakefulness, uncoordinated or ineffectual sucking and swallowing, regurgitation and vomiting, loose stools and diarrhea, tachypnea and apnea yawning, hiccups, sneezing, stuffy nose, mottling, fever, inability to gain weight and lacrimation. The clinical course is variable with symptoms ranging from mild to severe and brief to protracted with exacerbations or reoccurrence of symptoms. Restless, agitation, tremors, wakefulness, feeding problems may persist for up to 6 months.

### Treatment and intervention:

Comfort measures and abstinence scoring tools are used to determine severity of withdrawal and proper treatment. The neonatal abstinence scoring is used to assess the need for pharmacological intervention and the titration of therapeutic agents, along with the infant's clinical response. The abstinence tool is also helpful for infants not requiring medication but require special comfort measures and nursing intervention. Helpful comfort measures like modifying the environment, feedings on demand, changing diapers frequently, offering a pacifier and swaddling the infant can provide support to nursing staff and families. Infants with NAS need continuous assessment and reassessing to manage their needs.

#### References:

1. Handbook Neonatal Intensive Care 6<sup>th</sup> Ed. Merenstein G, Gardner S. 2006
2. Ehrlich S, Finnegan LP: Trends and changes in a treatment program for drug-dependent pregnant women. 1988
3. Finnegan LP, Kaltenbach K. Neonatal abstinence syndrome In Hoekelman RA, Nelson N: Primary pediatric care ed 2, St Louis, 1998 Mosby.
4. Kandell S Treatment strategies for drug exposed neonates, Clin Perinatal 26;231, 1999.
5. Neonatology, Management, Procedures, On-Call Problems, Diseases and Drugs, 6<sup>th</sup> ed. Gomella, T. 2009

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## MRNTP Practice Initiative

The Maryland Regional Neonatal Transport Program's (MRNTP) first practice initiative data collection has been completed. This consisted of the appropriate frequency of glucose monitoring during the pre-transport phase of care. The staff completed the Pre-Transport Stabilization Self-Assessment Tool (PSSAT) as a prompted intervention to meet the S.T.A.B.L.E. guidelines.

Thanks to:

- Baltimore Washington Medical Center
- Carroll Hospital Center
- Memorial Hospital of Easton
- Upper Chesapeake Medical Center
- Maryland General Hospital

We are awaiting data analysis. This project was designed to strengthen the collaboration between referral hospital staff and the transport team with the ultimate goal of optimizing patient stabilization. The initiative was based on the S.T.A.B.L.E. program, the evidenced based curriculum for stabilization. Future initiatives are planned if your hospital is interested contact the project leader or Beth Diehl-Svrjcek, Neonatal Transport Nurse or the transport coordinator, Webra Price-Douglas. Please stayed tune for more details!

## S.T.A.B.L.E. Program Simulation Testing

University of Maryland's Center for Outreach Medicine, Provider Awareness & Competency Training (COMPACT) was the site for the recent S.T.A.B.L.E. program simulation testing. Kristine Karlen, PhD. author and founder of the S.T.A.B.L.E. program was here

testing several scenarios based on the S.T.A.B.L.E. curriculum for stabilization. She spent three days with a multidisciplinary group (medicine, nursing, respiratory therapy and emergency medical technicians) from University of Maryland Medical Center and Johns Hopkins Hospital. These scenarios will enable hospitals to conduct simulation based learning programs for their staff based on the S.T.A.B.L.E. program to reinforce the information and skills discussed in the program.

## MRNTP Outreach Education

**NRP Instructor Course**

4.28- COMPACT Center

**NRP**

5.25.11-COMPACT Ctr- Maryland Express Care & Johns Hopkins LifeLine

**STABLE**

4.12.11-AAMC

5.12.11- COMPACT Ctr

**STABLE CARDIAC**

4.21.11- COMPACT Ctr

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