Weaning Inconsistencies in Neonatal Abstinence Syndrome (NAS) and Modified Scoring

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Abstract--Ongoing Work/Project

Neonatal Abstinence Syndrome has been recognized for years; however, a nationwide increase in opioid exposed newborns has drastically changed the face of neonatal nursing and healthcare (Bagley, 2014; Toila, 2015). While many different scoring tools and treatment options have been developed and implemented worldwide, there are still significant inconsistencies across the board on how to safely and effectively wean these newborns and decrease their length of stay (LOS) (McQueen, 2016). With this increased patient population we have viewed traditional scoring tools including Finnegan and spoken with other experts in this field including Yale. The benefit of the family being with the infant is emphasized as well as improving nursing interventions that reduce overall anxiety for both infant and family and decrease the LOS (Abbett, 2012). In reviewing the literature our goal was and is to decrease exposure to opiates on the developing brain as well as creating a readiness to wean scale.

Based on our current statistics we have shown that through supportive comfort measures we are able to minimize the physiologic effects of withdraw including but not limited to the effects of central and autonomic nervous system dysfunction (MacMullen, 2014). As we have learned from other experts in this field having a collaborative group to standardize patient care policies decreases health care utilization, increases family satisfaction, decreases newborn exposure to opiates, and overall provides improved outcomes (Patrick, 2016). This two group comparison study will determine if this tool is making a difference in our length of stay positively or negatively as well as allow us to comfortably and safely wean our patients. As we continue to review the literature we will review inter-rater reliability and have local and national experts assess this modified scoring tool. In addition we will continue to ensure the parents understand they are the primary treatment in their infant’s care as outlined in our NAS Parent Contract and their expectations while in the Neonatal Intensive Care Unit (NICU).

With current changes in practice and implementation of our NAS protocol our length of stay has drastically decreased. Pre-NAS protocol for all babies LOS 41.5 days and post-NAS protocol LOS 22.6 days (46% reduction), all term babies pre-NAS protocol LOS 50.4 days, post-NAS protocol 22.8 days (56% reduction), single substance exposed term pre-NAS protocol 54.2 days and post-NAS protocol 19.6 days (64% reduction) and multi substance exposed term pre-NAS protocol 47.7 days and post-NAS protocol 27.8 days (42% reduction). Impact on LOS of babies relative to percentage of baby's hospital
stay that mother provides comfort measures 0% at 22.3 days (only 3 babies), <=25% at 29.6 days,
<=50% at 28.8 days, <=75% at 24.6 days, and >75% at 17.8 days. In addition our clonidine and morphine
exposure has decreased exponentially with Clonidine exposure pre-NAS protocol 44.3 days and post-
NAS protocol at 18.9 days and morphine exposure pre-NAS protocol 30.3 days and post-NAS protocol
17.2 days. With our continued multi-center and multi-disciplinary quality improvement collaborative we
continue to decrease our length of stay, decrease opioid exposure, and effectively include these families
as their infant’s primary treatment.

Keywords: Neonatal Abstinence Syndrome, Opioid Exposed Newborns, The Finnegan Neonatal
Abstinence Scoring System

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Keywords:
Consistency, Neonatal Abstinence Syndrome and Weaning

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Abstract Summary:
This two group comparison study will determine if our tool is making a difference in our length of stay and
provides safe weaning. With our multi-disciplinary quality improvement collaborative we continue to
decrease our length of stay, decrease opioid exposure, and effectively use the family as the infant’s primary treatment.

**Content Outline:**

I. Introduction: Weaning inconsistencies and modified scoring for older infants and comfort measures as treatment

II. Body:

A. Main Point #1: Nationwide increase in opioid addiction

   a. Supporting Point #1: Increase in neonatal abstinence newborns across the country in Neonatal Intensive Care Unit’s

   b. Supporting Point #2: Significant inconsistencies across the country related to weaning successfully

B. Main Point #2: Comfort measures and family involvement significantly decreases opioid exposure and length of stay (LOS)

   a. Supporting Point #1: Standardized protocols including parent involvement impact length of stay positively

C. Main Point #3: Modified scoring tool for older infants will allow for faster effective weaning

   a. Supporting Point #1: Pre-NAS protocol LOS compared to Post-NAS protocol LOS

   b. Supporting Point #2: Decreased exposure to morphine and clonidine Pre-NAS protocol and Post-NAS protocol

Conclusion: With our continued multi-disciplinary quality improvement collaborative we continue to decrease our length of stay, decrease opioid exposure and include these families as their infant’s primary treatment.

First Primary Presenting Author

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**Professional Experience:** As a BSN graduate in 2005 I started as a Neonatal Intensive Care Nurse at Inova Fairfax Children's Hospital. Leaving there in 2007 to work closer to home I started working in Winchester Medical Center’s Neonatal Intensive Care Unit. As an RN III I have chaired our Practice and Education Councils as well as currently chair our Neonatal Abstinence Syndrome Committee where often more than 50% of our patients are treated for withdrawal.

**Author Summary:** As an expert in Neonatal Nursing and having been at the bedside for almost 13 years Jacqueline has seen the impact the Neonatal Abstinence Population has had on local hospitals. As a
champion for these patients she began the multi-disciplinary NAS committee at Winchester Medical Center in March of 2016 and their research and dedication to these patients has improved family centered care.