

Neonatal Abstinence Syndrome and the Pediatric Hospitalist: 5 Years Later

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As the US opioid crisis grows, neonatal abstinence syndrome (NAS) is increasingly common in inpatient settings, from community-hospital nurseries to inpatient units and NICUs at large children's hospitals. NAS is stressing perinatal care systems because of lengthy and costly hospital stays and is garnering attention not only in health care but also in public policy circles and the media.¹ Commensurate with the dramatic increase in NAS cases, in some settings, the management of NAS is shifting from neonatology to pediatric hospital medicine. This represents a unique opportunity.

In this issue of *Hospital Pediatrics*, Milliren et al² report significant variability in NAS care practices across US hospitals, including rates of pharmacotherapy use, choice of treatment medication, length of treatment, and length of stay. These inconsistencies exist despite the majority of US hospitals using some form of the Finnegan Neonatal Abstinence Scoring System (FNASS) to assess infants with NAS. This is less surprising when one considers that neither the tool (which was created in 1975) nor the protocols developed for its clinical application have ever been rigorously validated.³ As Milliren et al² find, treatment with pharmacologic agents is associated with higher costs and longer lengths of stay. Because rates of medication use for symptom management vary by hospital from 13% to 90% of exposed newborns, there is likely substantial room for a reduction of pharmacotherapy in many localities.² In addition to the material costs of pharmacotherapy and the associated lengthy hospitalizations, mothers report disrupted bonding and increased feelings of guilt and stigma. Inconsistencies in clinical management and communication further detract from the family experience.^{4,5}

What is the role of the hospitalist in all this? In the space between intensivists and primary care, the pediatric hospitalist can offer a different perspective and propose alternative methods and modalities to bridge gaps in care. The hospitalist is aware that less is often more, and if a condition can effectively be managed more simply, less invasively, or even at home, this is the preferable course. It is possible to avoid unnecessary therapies, potential harms, and disruption of family life. At times, this requires thinking creatively and questioning customary practices.

The American Academy of Pediatrics 2012 Policy Statement on neonatal drug withdrawal makes it clear that the first line of treatment of withdrawal is not morphine, methadone, or phenobarbital.⁶ It is not any medication but rather attention to the environment of the infant and minimizing overstimulation and hunger while providing soothing support, such as holding, rocking, and swaddling. Before turning to drugs, we are called to first ensure an environment that is ideal for any newborn.

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Pediatric hospitalists are well positioned to transition the care setting away from NICUs, which often have an open-bay setup, to support management in nurseries or pediatric wards, where the care environment can be optimized. In these rooming-in settings, nonpharmacologic interventions, including skin-to-skin contact, breastfeeding, and a low-stimulus environment, are easier to implement.

It may also be time to change the traditional approach to NAS symptom assessment and strictly protocolized pharmacologic responses to standardized withdrawal scores. Emerging evidence suggests that strict protocols based on the FNASS potentiate an overtreatment of newborns with pharmacologic agents.^{7,8} The long-term outcomes related to these treatments are not fully understood. Also in this issue, Grossman et al⁹ propose an alternative to the FNASS for evaluation of and response to newborn opioid withdrawal. They dispense with adding up points for a long list of withdrawal items, such as the incidence of sneezes, yawns, and scratches. Instead of cataloguing signs and symptoms with questionable clinical implications, they favor a formal assessment of the newborn's ability to eat, sleep, and be consoled. These factors are arguably the chief concerns of the newborn and parents and follow the American Academy of Pediatrics guideline directive that "the goals of therapy are to ensure that the infant achieves adequate sleep and nutrition to establish a consistent pattern of weight gain and begins to integrate into a social environment."⁶

If an infant is unable to eat, sleep, or be consoled, the authors of this article then explore all the potential causes, as they would for any other newborn. Symptoms including fussiness, poor sleep, or feeding difficulties are not attributed to withdrawal alone because symptoms, like cluster feeding, are common newborn behaviors. Additionally, if NAS is indeed the cause of a symptom, opioids and other pharmacologic treatments may not be the appropriate next step in management. Infants experiencing NAS have increased caloric needs, up to 150 to 250 kcal/kg per day. For feeding difficulty or poor weight gain, the

optimization of nutrition through supplementation and fortification, lactation support, and speech and language pathology evaluation may all be more prudent initial responses than starting morphine. A third article in this edition of *Hospital Pediatrics* by Bogen et al¹⁰ highlights the importance of optimal nutrition in treating NAS. If an infant appears inconsolable, fully exploring other causes of discomfort and ensuring that caregivers can master soothing techniques will likely provide a longer-lasting benefit.

Five years ago, a commentary in this journal called for pediatric hospitalists to take the lead on NAS, including hospital system changes to facilitate rooming-in and promoting family-centered care for those battling substance use disorders.¹¹ As these articles demonstrate, we are making progress by contributing to the evidence base with both pragmatism and compassion. Looking ahead, we can promote consistent and supportive care environments for newborns and families both during hospitalization and at discharge. We can work with our primary-care colleagues and community services to standardize home nursing and early-intervention services and conduct rigorous evaluations of the developmental outcomes associated with different approaches to pharmacotherapy and non-NICU care settings. Through ongoing contributions in research and quality improvement, we can make substantial progress in the achievement of better care for opioid-exposed newborns.

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