

Neonatal Medications



Robert M. Ward, MD^{a,*}, Justin Stiers, MD^a, Karen Buchi, MD^b

KEYWORDS

- Neonatal abstinence syndrome • Opioids • Circumcision • Analgesia
- Pharmacogenomics • Single nucleotide polymorphism

KEY POINTS

- Maternal substance use and abuse during pregnancy is dramatically increasing in North America.
- Despite increasing frequency of neonatal abstinence syndrome (NAS), high-quality evidence and treatment guidelines remain limited and there is wide interinstitution variability in treatment strategies.
- Newborns show physiologic responses to painful stimuli. Untreated or undertreated pain in the newborn period may have effects on future response to pain and anxiety.
- Current available evidence for nonpharmacologic and pharmacologic approaches to pain management for common medical procedures (including circumcision) are described.
- Single nucleotide polymorphisms contribute to diseases and differences in drug metabolism (pharmacogenomics/pharmacogenetics) and must be distinguished from developmental differences in the level of activity of drug-metabolizing enzymes.

MATERNAL DRUG ABUSE AND NEONATAL ABSTINENCE SYNDROME

The American Academy of Pediatrics (AAP) Committee on Drugs and the Committee on Fetus and Newborn recently updated their Clinical Report on Neonatal Withdrawal.^{1,2} This was an extensive review of the topic. In it, they recommended that every nursery have a policy for assessing maternal substance abuse and have a standardized plan for the evaluation and management of infants at risk for or showing withdrawal. In this article, we work through an example of such a standardized plan.

Fig. 1 provides an algorithm that can be used by the nursery team to assess the newborn with in utero drug exposure and to make management decisions regarding neonatal abstinence syndrome (NAS). It represents a starting point for the organization of care and decision making regarding nursery management of in utero drug exposure.

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^a Division of Neonatology, Department of Pediatrics, University of Utah, 295 Chipeta Way, Salt Lake City, UT 84108, USA; ^b Division of General Pediatrics, Department of Pediatrics, University of Utah, 295 Chipeta Way, Salt Lake City, UT 84108, USA

* Corresponding author.

E-mail address: robert.ward@hsc.utah.edu

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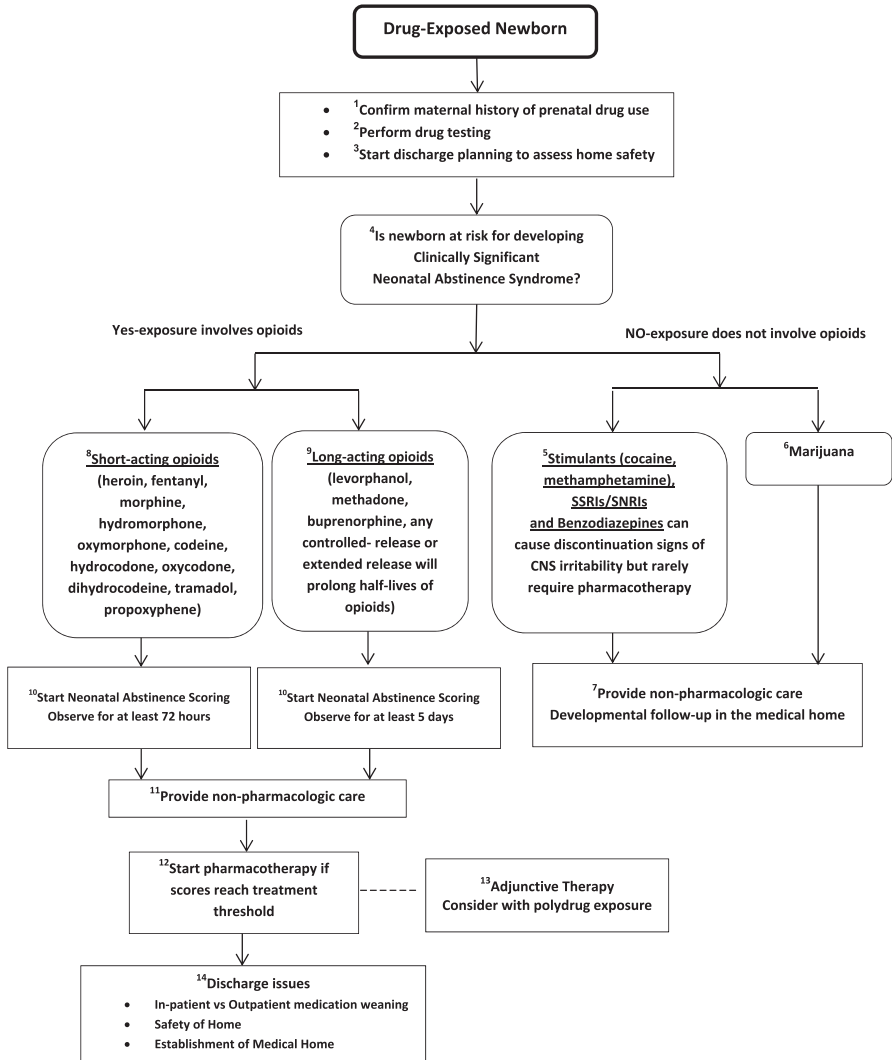


Fig. 1. Algorithm for assessment and treatment of neonatal abstinence syndrome (NAS). The numbers refer to sections in the text with discussions.

Assessment of the Drug-Exposed Newborn

1. Confirm the maternal history of prenatal drug use

It is important to know all of the drugs taken by the mother, because that will help to determine the risk to the newborn of developing withdrawal symptoms. It is also often the first opportunity for the pediatrician to meet the mother and start forming a positive relationship around the care of her infant.

2. Perform drug testing

Each nursery should have a uniform policy regarding which infants to test for drug exposure. Oral and Strang³ surveyed drug screening practices in Iowa and compiled a list of maternal and neonatal characteristics that are used to determine which

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