

BACKGROUND

What is Neonatal Abstinence Syndrome (NAS)?

- Neonatal withdrawal after intrauterine exposure to illicit or prescription drugs
- Caused by the abrupt cessation of the drug exposure at birth
- Recognizable signs of NAS appear in 60% to 80% of neonates exposed to opioids in utero
- Screening for NAS involves thorough maternal history and testing of maternal or neonatal urine, meconium, or umbilical cord
- Preterm infants may not exhibit the same withdrawal symptoms or to the same degree as term infants

PURPOSE

- To explore the current state of practice for preterm infants born at less than 34 weeks of gestational age exposed to intrauterine opioids

METHODS

- Descriptive cross-sectional study of NAS practice in preterm infants born at less than 34 weeks of gestational age in NICUs in the United States and Canada was done
- Modified Finnegan scoring tool was used for both preterm and term infants
- Morphine was reported as the most common first-line drug used for treatment

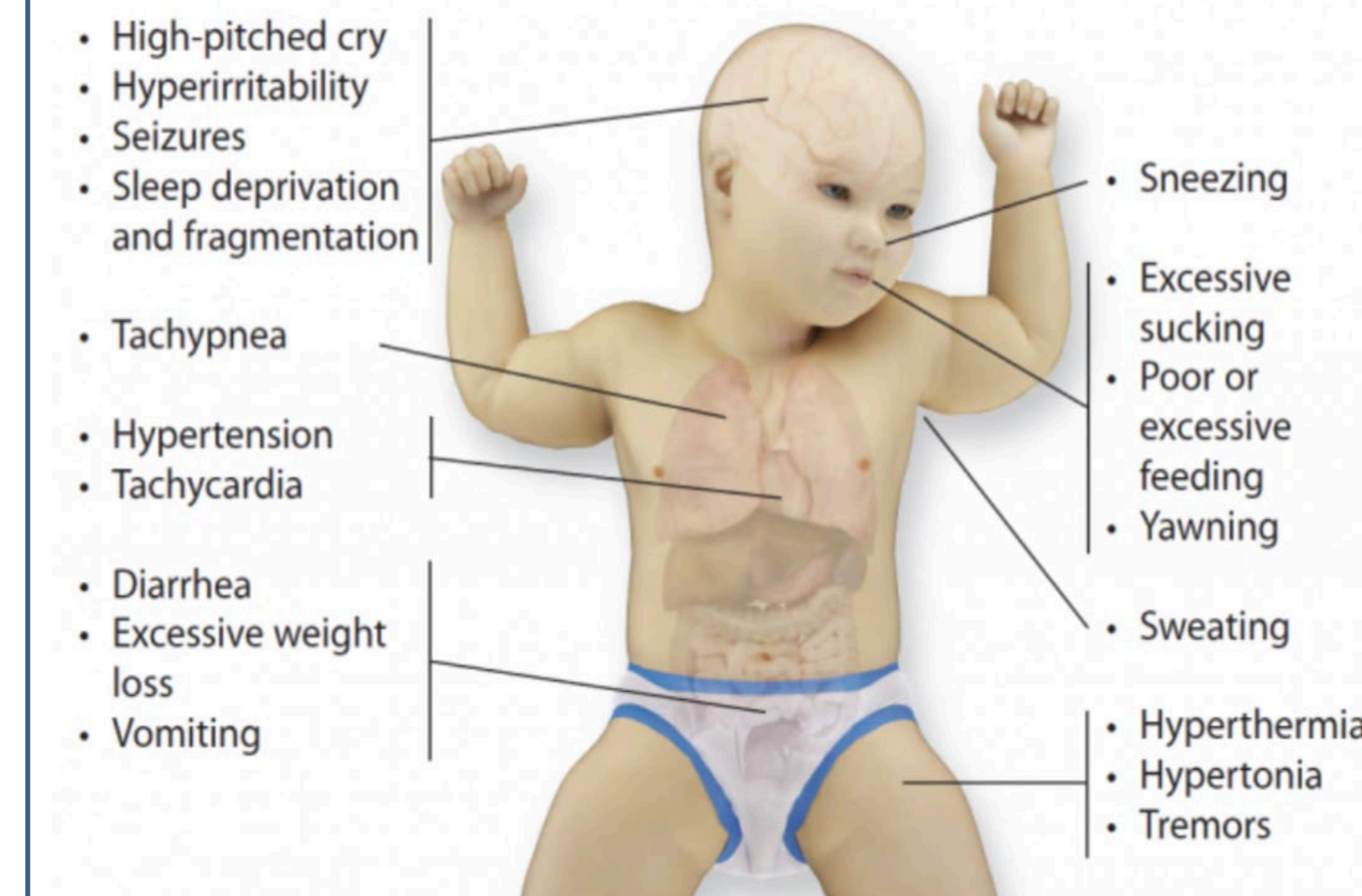
NEONATAL ABSTINENCE SYNDROME: PRETERM VERSUS TERM NEWBORNS

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NAS signs

Signs of neonatal abstinence syndrome (NAS) primarily occur in the neurologic, respiratory, and GI systems.



Modified Finnegan Neonatal Abstinence Score Sheet ¹					
System	Signs and Symptoms	Score	AM	PM	Comments
Central Nervous System Disturbances	Excessive high-pitched (or other) cry < 5 mins	2			
	Continuous high-pitched (or other) cry > 5 mins	3			
	Sleeps < 1 hour after feeding	3			
	Sleeps < 2 hours after feeding	2			
	Sleeps < 3 hours after feeding	1			
	Hyperactive Moro reflex	2			
	Markedly hyperactive Moro reflex	3			
	Mild tremors when disturbed	1			
	Moderate-severe tremors when disturbed	2			
	Mild tremors when undisturbed	3			
Metabolic/Vasomotor/Respiratory Disturbances	Moderate-severe tremors when undisturbed	4			
	Increased muscle tone	1			
	Excitation (chills, knees, elbow, toes, nose)	1			
	Myoclonic jerks (twitching/jerking of limbs)	3			
	Generalised convulsions	5			
	Sweating	1			
	Hyperthermia 37.2-38.3C	1			
	Hyperthermia > 38.4C	2			
	Frequent yawning (> 3-4 times/scoring interval)	1			
	Mottling	1			
Gastrointestinal Disturbances	Nasal stuffiness	1			
	Sneezing (> 3-4 times/scoring interval)	1			
	Nasal flaring	2			
	Respiratory rate > 60/min	1			
	Respiratory rate > 60/min with retractions	2			
	Excessive sucking	1			
	Poor feeding (infrequent/uncoordinated suck)	2			
	Regurgitation (> 2 times during/post feeding)	2			
	Projectile vomiting	3			
	Loose stools (curds/seedy appearance)	2			
Total Score					
Date/Time					
Initials of Scorer					



A baby's life shouldn't begin with detox



RESULTS

- Due to immaturity, lower fat deposits, delayed CNS development, and differences in total drug exposure, preterm infants may have a lower risk of drug withdrawal, a less severe course of NAS, a shorter length of stay and a shorter length of pharmacological treatment, and a lower maximum dose of medication therapy
- Preterm infants' scores on the modified Finnegan scoring tool were lower than those of their term counterparts
- Preterm infants were more often scored for hyperactive Moro reflex, tachypnea, and poor feeding.

CONCLUSIONS

- Great variability in NAS practice for preterm infants across the multiple NICUs supports the need for a validated preterm infant assessment tool and development of appropriate treatment strategies
- Use of the same protocols regardless of gestational age may result in drug overexposure in preterm neonates due to their altered drug metabolism
- Modified Finnegan tool should continue to be used for assessment of NAS in preterm infants as there is no alternative validated tool

REFERENCES

- Armbruster, Debra, et al. "Neonatal Abstinence Syndrome and Preterm Infants." *Advances in Neonatal Care*, 2021, pp. 107-114.
- Bagwell, Gail A. "Neonatal Abstinence Syndrome: An Escalating Problem for Newborns, Families, and Healthcare Providers." *Abbott Nutrition Health Institute*, Apr. 2021, pp.1-12.
- "Drug and Alcohol - Neonatal Abstinence Syndrome (NAS)." *Drug and Alcohol*
- - *Neonatal Abstinence Syndrome (NAS)*, The Royal Women's Hospital, 27 July 2020, thewomens.r.worldssl.net/images/uploads/downloadable-records/clinical-guidelines/drug-and-alcohol-neonatal-abstinence-syndrome-nas_280720.pdf.

