

ABM Clinical Protocol #1: Guidelines for Glucose Monitoring and Treatment of Hypoglycemia in Term and Late Preterm Neonates, Revised 2021

Nancy E. Wight, MD, IBCLC, FABM, FAAP; and the Academy of Breastfeeding Medicine

Abstract

A central goal of The Academy of Breastfeeding Medicine is the development of clinical protocols for managing common medical conditions that may impact breastfeeding success. These protocols serve only as guidelines for the care of breastfeeding mothers and infants and do not delineate an exclusive course of treatment or serve as standards of medical care. Variations in treatment may be appropriate according to the needs of an individual patient.

Purpose

TO PROVIDE GUIDANCE in the first hours/days of life to:

- Differentiate transitional neonatal hypoglycemia from persistent pathologic hypoglycemia
- Prevent clinically significant hypoglycemia in newborn infants
- Appropriately monitor blood/plasma glucose levels in at-risk term and late preterm neonates
- Manage clinically significant hypoglycemia in newborn infants to prevent neurologic injury
- Maximize breast milk provision to babies
- Establish and preserve maternal milk supply during medically necessary supplementation for hypoglycemia or during separation of mother and baby.

About the 2020 Revised Protocol

Key research articles before 2014 were retained and more recent information was added from primary studies and compilations. Specific studies were assigned a level of evidence, and Strength of Recommendation Taxonomy (SORT: A, B, C)¹ was used for recommendations. The SORT rating system addresses the three key elements (quality, quantity, and consistency) recommended by the Agency for Healthcare Research and Quality. Levels of evidence are applied after each specific recommendation in brackets, e.g., [A], [B], [C].

Recommendations are updated based on the last 6 years of new information and critical older studies. This clinical protocol is intended to provide practitioners with pragmatic evidence-based guidance to keep infants safe while mini-

mizing unjustified interventions and adverse effects, such as heightened parental anxiety, excessive painful procedures, unnecessary supplementation with artificial milk, decrease in breastfeeding, and avoidable neonatal intensive care unit (NICU) admission.

Background

The term *hypoglycemia* refers to a low blood or plasma glucose concentration and reflects a relative imbalance between the supply and utilization of glucose, but does not consider the supply and utilization of alternative fuels to glucose covered under the broader concept of metabolic adaptation. Transient low blood glucose levels in the first 1–2 hours after birth are common, occurring in almost all mammalian newborns. In healthy term human infants, even if early enteral feeding is withheld, transitional neonatal low glucose is usually self-limited, asymptomatic, and considered to be part of adaptation to postnatal life.^{2,3} However, profound, persistent, or recurrent neonatal hypoglycemia, especially in a term previously healthy newborn with no risk factors, invariably presents with abnormal clinical signs and may reflect genetic, metabolic, or endocrine dysregulation or defects and require more aggressive evaluation and care.^{4,5}

Despite >60 years recognition that low blood glucose can cause neurologic compromise, we still do not know how low, for how long, and in which specific infants. New evidence has come to light, but so have new varying recommendations, based on differing perspectives. Also, peripartum care of the mother and newborn has changed dramatically in the past six decades with infants staying with their mothers and encouraged to feed sooner.