

# MDPQC HYPOGLYCEMIA BUNDLE TOOLKIT



## Initiative Goals

**Goal 1:** Support the development and implementation of a protocol for management and care of symptomatic newborns with signs and symptoms of hypoglycemia and asymptomatic newborns at risk for hypoglycemia.

**Goal 2:** Decrease the number of newborn transfers to a higher level of care.

**Goal 3:** Decrease the number of IV infusions for hypoglycemia.

**Goal 4:** Support breastfeeding.

**Goal 5:** Decrease non-breastmilk supplementation for hypoglycemia.

**Goal 6:** Increase education among staff and families about best practices.

**Goal 7:** Submit data.

## Goal 1: Protocol

Support the development and implementation of a protocol for management and care of symptomatic newborns with signs and symptoms of hypoglycemia and asymptomatic newborns at risk for hypoglycemia.

### Implementation Concepts and Ideas

- a. Discuss the MDPQC collaborative objectives.
  - [Newborn Hypoglycemia Resources | MDPQC](#)
- b. Protocol(s) implementation.
  - [Slides: Neonatal Hypoglycemia Policy Guidelines Protocol Planning Office Hours - 3/12/2024 | MDPQC](#)
  - [Recording: Neonatal Hypoglycemia Policy Guidelines Protocol Planning Office Hours - 3/12/2024 | MDPQC](#)
- c. Sustain protocol(s) life-cycle management through review process.
  - [Slides: Neonatal Newborn Hypoglycemia Bundle Planning Office Hours - 8/8/2023 | MDPQC](#)
  - [Recording: Neonatal Newborn Hypoglycemia Bundle Planning Office Hours - 8/8/2023 | MDPQC](#)
- d. Implement screening for hypoglycemia in newborn nursery.
  - [Newborn Hypoglycemia Initiative, AAP & PES Screening and Management Recommendations | MDPQC](#)

## Goals 2 and 3: Prevention and Management

Decrease the number of newborn transfers to a higher level of care.

Decrease the number of IV infusions for hypoglycemia.

### Implementation Concepts and Ideas

- a. Initiate breastfeeding or formula feeding, per parental preference, within 30-60 minutes of life.
  - [Pediatric Newborn Medicine Clinical Practice Guidelines | BWH](#)
- b. Facilitate uninterrupted skin-to-skin/incubator care except during feeding.
  - [Slides: Neonatal Office Hours Skin-to-Skin in the Operating Room - 1/14/2025 | MDPQC](#)
  - [Recording: Neonatal Office Hours Skin-to-Skin in the Operating Room - 1/14/2025 | MDPQC](#)
- c. Optimize thermoregulation: dry hat at all times while in the hospital for infants who are at risk or being managed for hypoglycemia, avoid wet clothing, use warm blankets when wrapped, ambient temperature set to > 72°F.
- d. Encourage exclusive breastfeeding (for families who choose this) and minimize separation between birthing person and infant, assessment(s) and treatment(s) should occur in the birthing person's room to minimize separation where reasonable.
  - [Early Skin-to-Skin Contact for Mothers and their Healthy Newborn Infants](#)
- e. Implement the use of a dextrose gel that has been used for neonatal hypoglycemia. Dextrose gel is intended for neonates 48 hours or younger (35 weeks gestation or more).
  - [Recording: Glucose Gel for Neonatal Hypoglycemia Office Hours - 12/10/2024 | MDPQC](#)
  - [Dextrose Gel for Neonatal Hypoglycaemia \(the Sugar Babies Study\): A Randomised, Double-Blind, Placebo-Controlled Trial](#)
- f. Develop a nurse-driven order for dextrose gel. Dextrose gel may be administered a maximum of 3 times during an infant's hospital stay.
- g. Initial bath should be delayed for first 6-8 hours of life until normothermia and euglycemia are established.

## Goals 4 and 5: Breastfeeding

Support breastfeeding.

Decrease non-breastmilk supplementation for hypoglycemia.

### Implementation Concepts and Ideas

- a. Initiate feeding, per parental preference, within 30-60 minutes of life. Infants should be fed at least every 2-3 hours or more frequently with infant cues.
  - [ABM Clinical Protocol #1: Guidelines for Glucose Monitoring and Treatment of Hypoglycemia in Term and Late Preterm Neonates | BFMED](#)

- [Recording: Neonatal Office Hours Implementing a Breastfeeding Fair at Franklin Square – 2/11/2025 | MDPQC](#)
- b. Teach mothers to hand express and give the resulting colostrum to the infant. Keep the infant at breast or return the infant to the breast as soon as possible to maintain breastfeeding, as well as breast milk supply.
  - [Educational Videos regarding Breastfeeding, Hand Expression, Attachment, and Electric Pumping | First Droplets](#)
- c. Provide manual and/or mechanical breast expression with appropriate frequency (ideally eight times in 24 hours) until the baby is latching and suckling well to protect mothers' milk supply. Set-up breast pump and teach birthing person how to pump so pumping can continue after each breastfeeding until blood glucose is normal.
  - [Fact Sheets & Infographics | Breastfeeding | CDC](#)
- d. Formula or donor milk supplementation may be necessary in the setting of neonatal hypoglycemia not initially responsive to dextrose gel and breastfeeding. Alternative feeding methods should also be considered, such as syringe, cup, or Supplemental Nursing System, to avoid bottle/nipple.
  - [Slides: Neonatal Office Hours Adventist Donor Breastmilk - 06/11/2024 | MDPQC](#)
  - [Recording: Neonatal Office Hours Adventist Donor Breastmilk - 6/11/2024 | MDPQC](#)
- e. Giving birth to an infant thought to be normal and healthy, but who develops hypoglycemia, is of concern to the mother and family and may jeopardize the establishment of breastfeeding. Mothers should be explicitly reassured that there is nothing wrong with their milk, and that supplementation is usually temporary. Having the mother hand express or pump colostrum that is then fed to her infant can overcome feelings of maternal inadequacy and help establish a full milk supply.
  - [Recording: Maryland Perinatal-Neonatal Quality Collaborative Annual Meeting - Neonatal Health - 9/19/2024 | MDPQC](#)
  - [La Leche League International](#)
  - [Pregnancy | FDA](#)

## Goal 6: Education

Increase education among staff and families about best practices.

### Implementation Concepts and Ideas

- a. Inclusive Communication and Respectful Care Training, Addressing Implicit Bias, Strategies for Language Access, Health Literacy, and Shared Decision Making
  - [Slides: Office Hours Candid Conversations: Inclusive Communication in Maternal & Child Health - 12/13/2023 | MDPQC](#)
  - [Recording: Office Hours Candid Conversations: Inclusive Communication in Maternal & Child Health - 12/13/2023 | MDPQC](#)
- b. Provide parents with verbal and written information that explains why their baby is receiving extra support and blood glucose monitoring.
  - [Late Preterm Hypoglycemia Rack Card | MDPQC](#)
  - [Recording: Neonatal Hypoglycemia Office Hours: Staff Education Sharing - 4/9/2024 | MDPQC](#)

- [Development of an Instrument to Measure Awareness and Mitigation of Bias in Maternal Healthcare | MDMOM](#)
  - [American Hospital Association: Awareness to Action Implicit-Bias Training | MDMOM](#)
  - [Interrupting False Narratives: Applying a Racial Equity Lens to Healthcare Quality Data | PubMed](#)
  - [Centering Equity and Fostering Stakeholder Collaboration and Trust—Pillars of the Maternal Health Innovation Program in Maryland | MDMOM](#)
- c. Care Coordination
- [Slides: Office Hours Maternal and Child Health Care Coordination: A Local Health Department Discussion - 6/5/2024](#)
  - [Recording: Office Hours Maternal and Child Health Care Coordination: A Local Health Department Discussion - 6/5/2024 | MDPQC](#)
- d. Learning from Adverse Events, Drills
- [Learning from Adverse Maternal Events in Maryland | MDMOM](#)
  - [Neonatal Hypoglycemia | NIH](#)

## Goal 7: Data

Submit data.

### Implementation Concepts and Ideas

- a. Report MDPQC data monthly.
- [Recording: Neonatal Hypoglycemia Office Hours: Implementation Basics and Data Reporting - 2/13/2024 | MDPQC](#)
  - [Recording: Neonatal Hypoglycemia Office Hours: Data Review - 11/12/2024 | MDPQC](#)
  - [Slides: Neonatal Hypoglycemia Office Hours: HEART Results Summary - 7/9/2024 | MDPQC](#)
- b. Monitor breastfeeding and glucose level management, impact of interventions, adherence to hospital protocols, and other important outcomes.
- [Recording: Neonatal Hypoglycemia Office Hours: HEART Results Summary - 7/9/2024 | MDPQC](#)
  - [Slides: Neonatal Hypoglycemia Office Hours: Implementation Basics and Data Reporting - 2/13/2024 | MDPQC](#)
  - [Hypoglycemia Data Submission Template | MDPQC](#)
- c. Disseminate data at the hospital level with your team, frontline staff, and hospital leadership.
- [Recording: Neonatal Hypoglycemia Office Hours: HEART Feedback - 11/14/2023 | MDPQC](#)
  - [Recording: Neonatal Hypoglycemia Office Hours: Data Template Feedback - 9/12/2023 | MDPQC](#)
  - [Findings From Severe Maternal Morbidity Surveillance and Review in Maryland | MDMOM](#)