Neonatal Hypoglycemia: a Multi-Disciplinary Approach to Transformation of Care


**History**
- 2006: Original algorithm created
- 2011: Revision based on AAP clinical report Screening and management of postnatal glucose homeostasis in late-preterm and term SGA, IDM/LGA infants
- 2016: Glucose Gel studies completed. Cochrane newborns in the birth to 4-hour age group

**Current Algorithm**

**Key Algorithm Changes 2019**
- New column for treatment of symptomatic newborns
- Birth to 4 hours of age-asymptomatic newborns (Target glucose level ≥ 40) FEED within 1 hour with breastfeeding, mother’s own milk (MOM), pasteurized donor human milk (PDHM), or formula—minimum volume 3 mL/kg

- Red zone: glucose less than 25 → NICU for IV glucose

- Yellow zone: BF AND feed MOM/PDHM/formula

- 4 to 24 hours of age-asymptomatic newborns (Target glucose levels ≥ 45)

- Red zone: glucose less than 35 → NICU for IV glucose

**Issues Identified After Utilizing 2017 Algorithm**
- Addressed ONLY high-risk, asymptomatic newborns in the birth to 4-hour age group
- Did not support exclusive breastfeeding/human milk
- PDHM became option for use in newborn for mom’s wishing to exclusively breastfeed high-risk newborns
- 2-page algorithm cumbersome/confusing

**Staff Education**
- Mandatory education for all staff in L&D, OB/GYN, and NICU included Health Stream module as well as one hour in-person session on the physiology and detrimental effects of hypoglycemia, reviewed the new algorithm, and the process for accessing pasteurized donor human milk (PDHM)
- Zoom presentations for OB, Pediatrics, and Family Practice Service meetings highlighted major changes and emphasized overall goal of exclusive human milk feeding in the high-risk population with the use of PDHM supplementation

**October 2020:**
- Algorithm/changes go Live

**Barriers/Limitations**
- Needed a better way to identify high-risk babies in L&D
- Newborn nursery did not have a dedicated iSTAT machine to verify results

**Ongoing issues...**
- Improve rate of exclusive breastfeeding/utilization of PDHM
- Continue to improve collaborative management of symptomatic infants-WARM, SWEET, & PINK!!

**REFERENCES**