

# USE OF DEXTROSE GEL FOR INFANTS WITH HYPOGLYCEMIA

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## PRACTICE ISSUE

Staff nurses questioned whether the addition of glucose-gel to treat hypoglycemia would decrease infant separation from the mother, the need for I.V. dextrose, and admission to a higher level of care.

## PICO QUESTION

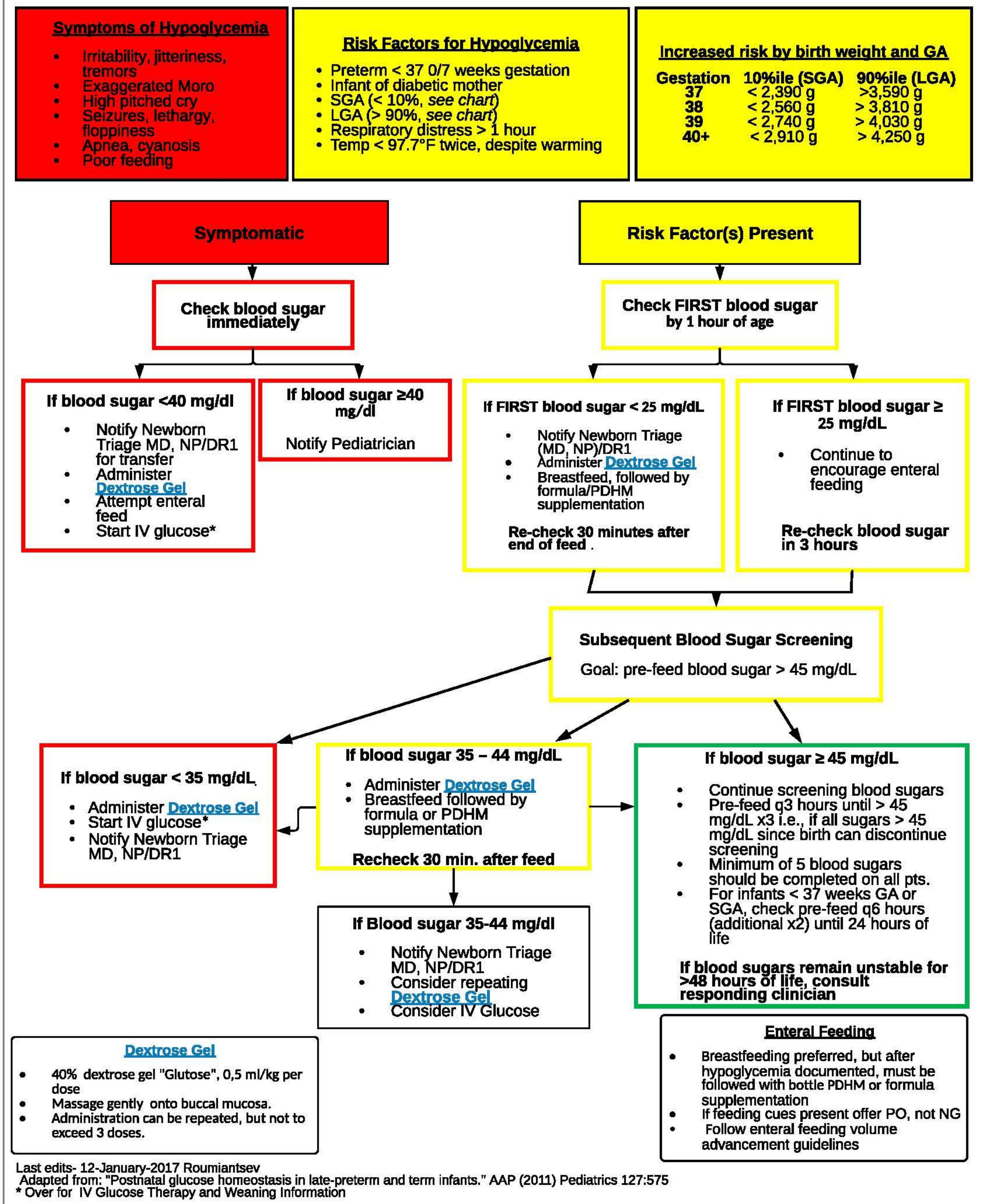
Is the use of oral dextrose-gel safe and effective for newborns at risk for hypoglycemia vs our standard of care (formula supplementation/pasteurized donor human milk)

## METHOD FOR SYNTHESIS OF EVIDENCE

A literature search was conducted and limited to peer reviewed, English studies from 2007-2017. The search included: Dextrose/glucose-gel, neonatal hypoglycemia, newborn, glucose and buccal-dextrose. CINAHL, OVID Nursing, OVID Medline and Academy of Pediatrics databases were searched. Brigham & Women's Hospital glucose gel guidelines were included. Johns Hopkins Nursing Evidence-Based-Practice (EBP) model was utilized, twenty-six articles were retrieved, articles not pertaining to the question were eliminated, leaving ten for review. Upon completion of the review, five articles remained, evidence levels included: 3, level 1, 1, level 3, and 1, level 5 all the articles, were good/high quality. Three of the studies showed use of gel was associated with an increase in breastfeeding rates and 2 showed a decrease for mother/baby separation.

## HYPOGLYCEMIA PROTOCOL WITH GEL ADDED

MGHHC Hypoglycemia Screening and Management Guidelines in Well-Appearing Newborns ≥ 34 Weeks Gestation up to 48 hours of life.



## RECOMMENDATION FOR PRACTICE OUTCOME

A unanimous decision was made to move forward with the use of glucose gel in June 2018. Preparations prior to instituting the gel including: presenting at multiple committees, adding gel to drug library, in-servicing staff nurses/providers, revising the treatment algorithm, and teaching buccal gel administration. Glucose-gel demonstrated an 80% reduction for IV dextrose resulting in an 80% reduction in infant admission to a higher level of care. No adverse effects from gel.



## PRE DEXTROSE GEL February-April 2018

756 Infants Eligible for Glucose Protocol

169 Infants had Glucose Protocol Initiated

35 Infants admitted to a higher level of care to receive IV Dextrose

## POST DEXTROSE GEL September-November 2018

782 Infants Eligible for Glucose Protocol

171 Infants had Glucose Protocol Initiated

70 Infants received Dextrose Gel

7 Infants admitted to a higher level of care to receive IV Dextrose

## IMPLICATIONS FOR NURSING PRACTICE

Utilizing EBP to answer a nurse-driven clinical question can impact patients. The initiation of the gel allowed mothers and infants to remain together, decreased unnecessary invasive procedures and decreased length of stay/cost by avoiding a higher level of care.

### A Special Thank You to:

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- MGH Medication Policy Committee
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- All Nurses in the Newborn Family Unit and Obstetrics Unit