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### Implementing a Neonatal Hypoglycemia Procedure with Glucose Gel

Cyndi Morton

*Providence St. Joseph Health*

Carol Suchy

*St. Joseph Hospital, Carol.Suchy@stjoe.org*

Renuka Kar

*Providence St. Joseph Health*

Rocky Roy Ramos

*St. Joseph Hospital, RockyRoy.Ramos@stjoe.org*

Jessica Laske MSN, RN, RNC-OB

*Providence St. Joseph Health, Jessica.Laske@stjoe.org*

*See next page for additional authors*

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**Authors**

Cyndi Morton; Carol Suchy; Renuka Kar; Rocky Roy Ramos; Jessica Laske MSN, RN, RNC-OB; Sudeep Kukreja; and Dana N Rutledge





# Implementing a Neonatal Hypoglycemia Procedure with Glucose Gel

Cyndi Morton MSN, RNC-OB, C-EFM, Carol Suchy MSN, RN, IBCLC, Renuka Kar MD, Rocky Roy Ramos BS, Jessica Laske MSN, RNC-OB, Sudeep Kukreja MD, Dana Rutledge, PhD, RN

## Background

Because of the potential for neurodevelopmental impairment with symptomatic neonatal hypoglycemia (NH), guidelines from the American Academy of Pediatrics (AAP) recommended prompt intervention for newborns showing signs/symptoms of NH; however, exact glucose levels for treatment were not specified. The Pediatric Endocrine Society (PES) made suggestions regarding how and when to identify newborns with serious persistent hypoglycemia (2015). In the meantime, clinical trials supported 40% glucose gel followed by breastmilk feeding as safe and effective for newborns at risk of NH.

## Purpose

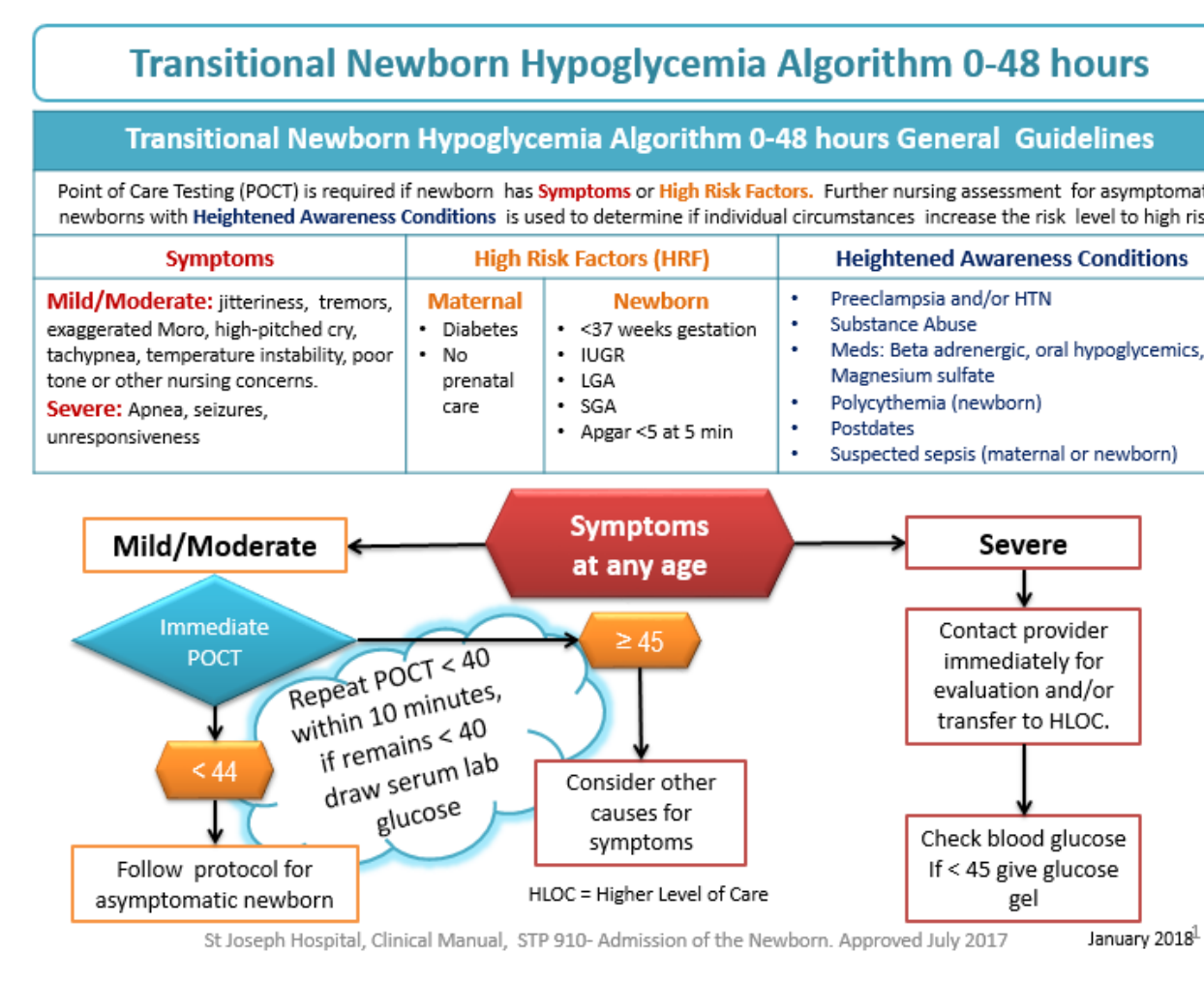
At a Magnet® Baby Friendly community hospital with ~ 5,000 deliveries per year, this quality improvement project evaluated effects of a standardized procedure (e.g., screening parameters and treatment with glucose gels plus feeds) on stabilization of transitional NH.

## Methods

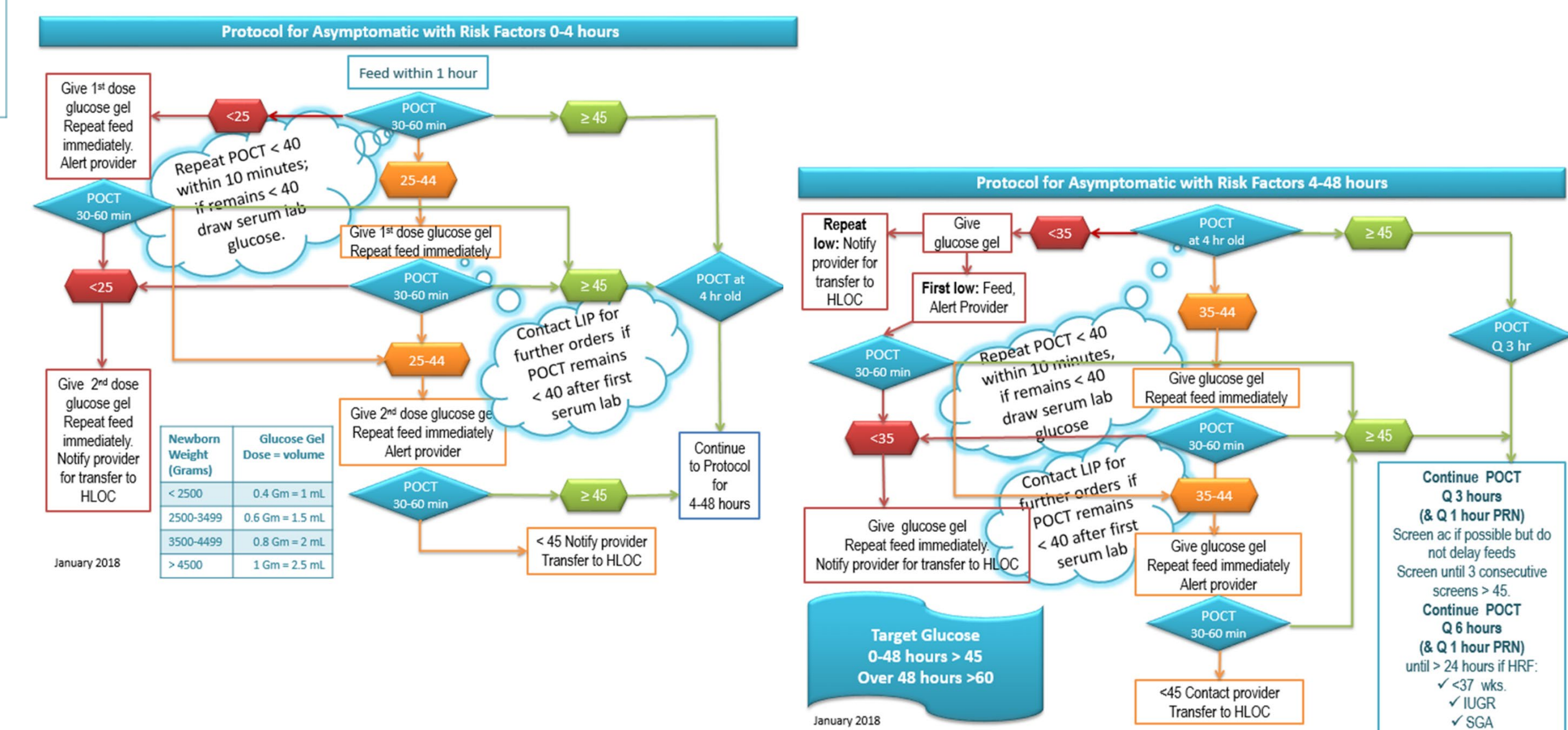
- Glucose gel efficacy for NH noted in 2016.
- Initial physician buy-in limited until grand rounds discussion of AAP vs. PES guidelines late 2016.
- Subsequent discussions among stakeholders led to development of an algorithm-driven standardized procedure by the multidisciplinary Perinatal Collaborative Practice Council.
- Nurse training on algorithm use occurred in April/May 2017 with implementation July 2017.

## Results

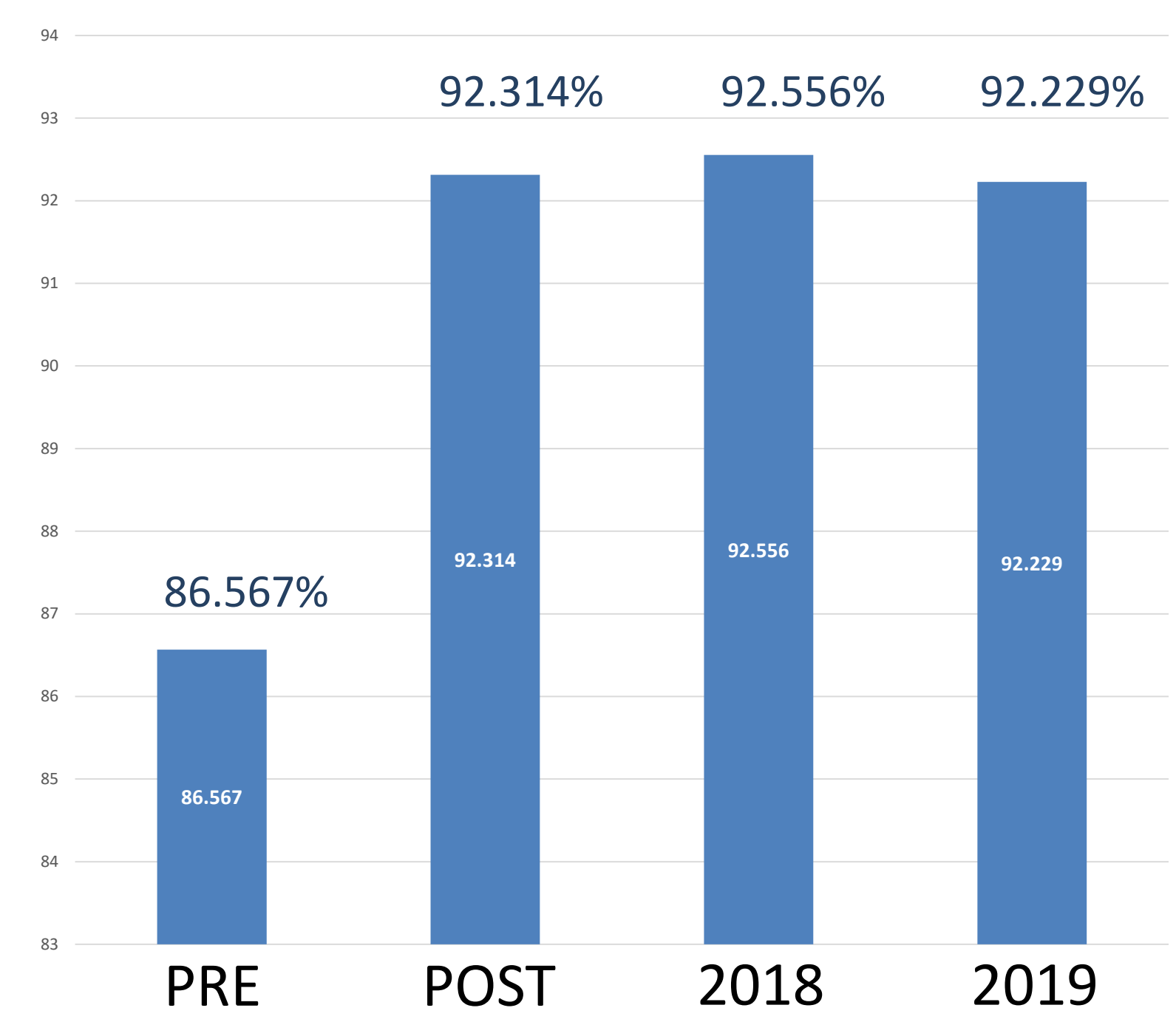
- Percentage of newborns with stable glucose levels increased with procedure implementation.
  - 86.567% (pre 2016 Q3)
  - 92.314% (post 2017 Q3 & 4)
- Change has been maintained for two years.
  - 92.556% (post 2018 Q1-4)
  - 92.229% (post 2019 Q1-4)
- Percentage of newborns with stable glucose levels increased by 5.800% ~ 280 newborns per year.



## Transitional Newborn Hypoglycemia Algorithm



## Results



## Discussion

- Implementation increased early stabilization of NH increasing the number of newborns who were able to remain in couplet care with the mother.
- Continued opportunity to increase use of breastmilk instead of formula to treat NH:
  - Deep-dive by Baby Friendly Committee to identify barriers to breastmilk use.
  - Pre-delivery expression of breastmilk for at-risk fetuses.
  - Work in progress to add human banked donor breastmilk to be implemented in Spring 2020.

**References:** Available upon request.  
Contact: Cyndi Morton at [cynthia.morton@stjoe.org](mailto:cynthia.morton@stjoe.org)