

Neonatal Endocrinology

Hypoglycemia

Algorithm A: Transitional Hypoglycemia Guideline for Infants who are at risk 0-48 hours of age

Version 11/15/17

All infants should be fed within the first hour of life and prior to first BG check whenever possible

RISK CATEGORY 1

Measure 1st BG within 1 hour of birth and at approximately 4 and 7 hours of life¹.

- a) Infant of Diabetic Mother (IDM)
- b) LGA (>90%, see chart below)
- c) Post-dates >42⁰⁰/7 weeks
- d) 5 min Apgar <7
- e) Any beta blocker or terbutaline administered within 48 hours of baby's birth
- f) Respiratory distress > 1 hr

GREEN

Risk Category 1 (a) – (f)
BG >45

- > Continue breast or formula feeding
- > Repeat q3h BGx2 with at least one prefeed check
- > Can stop BG check if BG>45 x 3

Risk Category 2 (g) – (k)
BG ≥45

- > Continue breast or formula feeding
- > Repeat q3h BG x2 and then q6hx2 with at least one prefeed check
- > Can stop BG check if BG≥45 at all checks
- > Consider 6 hour safety fast before discharge for risk category j, k

GA	SGA	LGA
37 - 37 6/7	<2500	>3650
38 - 38 6/7	<2700	>3900
39 - 39 6/7	<2800	>4000
40+	<2900	>4100

¹ Testing at these hours of life only apply when all BG measures are normal² Instructions for dextrose gel: Dextrose Gel, 40%, 0.5ml/kg, massage gently onto buccal mucosa. Gel is available in omniceil as override medication.³ 15-30mL is recommended feeding amount, but volume should be infant driven. When infants require formula, ensure that mothers pump to promote lactogenesis.⁴ Applies to babies with BG<30. Gel instructions for babies with BG 30-44 are included in yellow pathway.⁵ If POC is <40 act on POC result, if POC >40, wait for plasma result. When infant in NICU, preference is plasma glucose (PG). **Order PG stat.**⁶ May consider providing bolus only, rechecking glucose in 30 min, and then starting D10W infusion if BG remains low despite bolus and other environmental interventions (i.e. optimal thermoregulation).⁷ Treatment location (newborn nursery vs. triage) should be decided by attending pediatrician in consultation with parents, medical and nursing staff.

RISK CATEGORY 2

Measure 1st BG within 1 hour of birth and at approximately 4, 7, 13, and 19 hours of life¹.

- g) SGA (<10%, see chart below)
- h) Last measure should be prefeed.
- i) Preterm (<37⁰⁰/7 weeks)
- j) Birth weight <2500gm
- k) Family history of hypoglycemia
- l) Congenital syndrome or midline abnormalities (e.g. cleft lip/palate, microphallus)

YELLOW

BG 30-44

GEL

GIVE GEL ASAP²
Up to 3 gels may be given

FEED

FIRST GEL, feed per parental preference
SECOND and THIRD GEL, feed formula (15-30ml)³ then breastfeed if desired; notify MD for ongoing feeding plan after third gel

NEXT STEPS

- Recheck BG 30 min after gel & feeding complete
- > If <30, repeat gel², notify MD, start feeding and go to RED
- > If 30-44, repeat YELLOW pathway
- > If 3 gels have been given, and BG <45 Notify MD, start feeding and go to RED
- > If BG is ≥ 45, restart GREEN pathway – next BG to be done 3 hours after gel

RED

BG <30
or transferred from yellow pathwayGive gel ASAP⁴, transfer to NICU Triage, repeat POC BG and obtain STAT plasma glucose (PG)⁵

BG <20

Place PIV
> D10W bolus (2ml/kg) and
> D10W at 60 ml/kg/day⁶

BG 20-29

> If <3 gels have been given, give gel²-feed formula (15-30ml)⁴
> If 3 gels have been given, place PIV and start D10W at 60ml/kg/day

BG 30-44

> If <3 gels have been given, give gel²-feed formula (15-30ml)⁴
> If 3 gels have been given, place PIV and start D10W at 30ml/kg/day

BG ≥45

Restart green pathway in NICU triage or newborn nursery⁷

Next POC BG/ PG should be done in NICU triage

For infants cycling out of the RED pathway for the SECOND time, neonatologist and pediatrician to discuss plan.

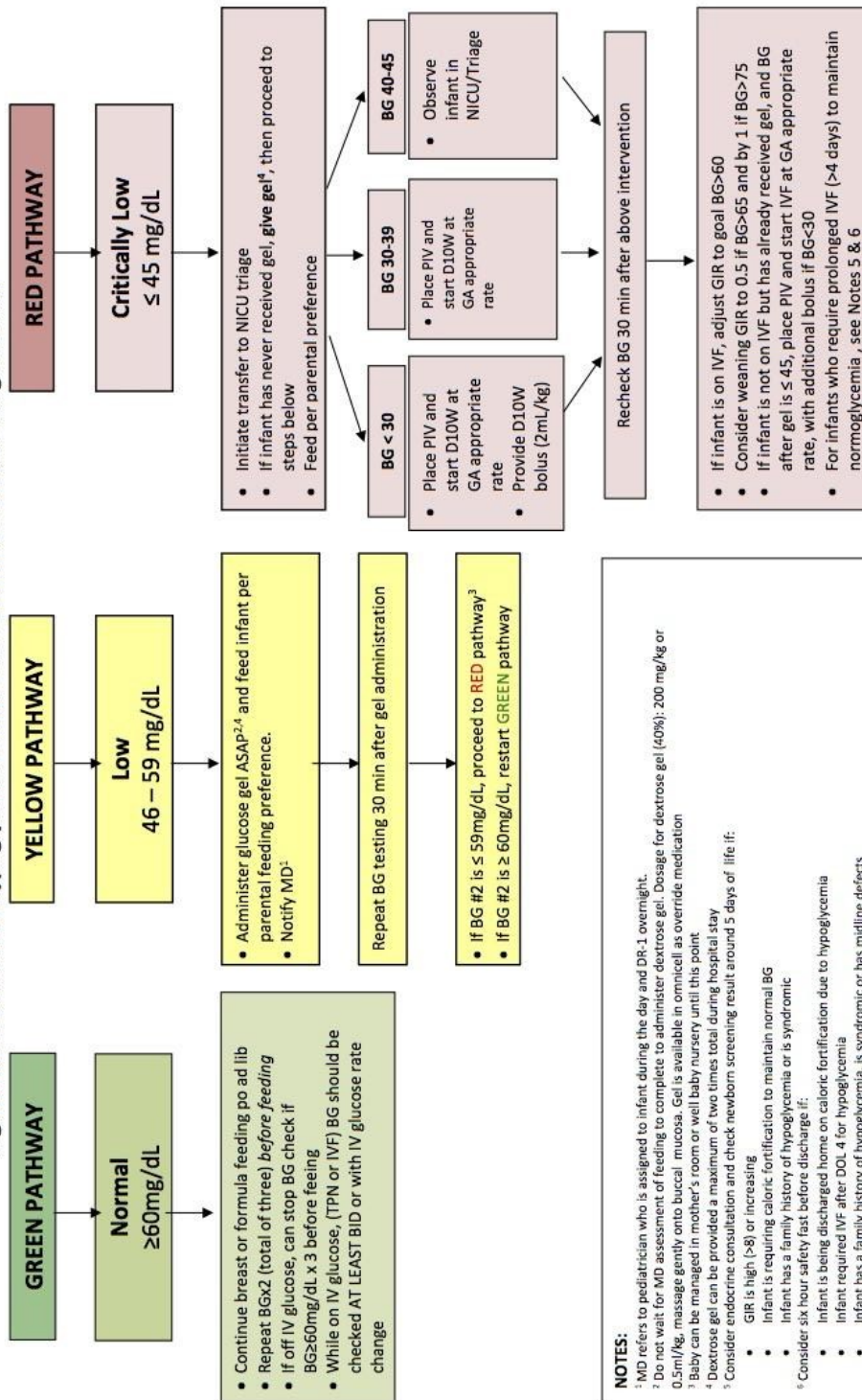
Repeat POC and PG 30 min after above intervention

If on IVF:
> Adjust GIR to goal BG≥45 if on IVF
> Consider weaning GIR by 0.5 if BG ≥50 and by 1 if BG≥60

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Algorithm B: Persistent Hypoglycemia Guideline for Infants 48 Hours of age or older



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