SCREENING AND MANAGEMENT OF ASYMPTOMATIC NEWBORNS AT RISK FOR HYPOGLYCEMIA DURING FIRST 48 HRS OF LIFE

- **AT RISK** = SGA, LGA, IDM, Late PT (34 0/7 → 36 6/7 Birth GA), other clinical situations per physician discretion
- **Bedside Glucose (BG): **Screening is based on bedside glucose “BG” (whole blood glucose; typically 10-18% lower than plasma glucose)
- Throughout the algorithm, “feed” refers to maternal preference – breast feeding alone is considered sufficient if this is mother’s choice
- **Assess for symptoms before every BG measurement** and document in medical record.
  - Contact Neonatal Provider immediately for symptomatic infants and administer one dose of OGG.
  - Symptoms include: poor feeding, jitteriness, tremors, floppiness, lethargy, high pitched cry, irritability, grunting, cyanosis, apnea
- **Oral Glucose Gel (OGG): **dose is 0.5mL/kg → see reverse side for dosing chart

<table>
<thead>
<tr>
<th>Target glucose levels are $\geq 35$mg/dL from Birth $\rightarrow$ 4 hrs, $\geq 45$ mg/dL from $&gt; 4 \rightarrow$ 24 hrs, $\geq 50$mg/dl from $&gt; 24$-48 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Begin feeding</strong> within 60 min of birth</td>
</tr>
<tr>
<td><strong>BG screen #1</strong> at 30 min after completion of first feed</td>
</tr>
<tr>
<td>If $\geq 35$: continue feeds q2-3hrs and perform pre-feed BG screen</td>
</tr>
</tbody>
</table>
| If $< 35$:  
  - Administer OGG immediately  
  - Place skin-to-skin and feed  
  - Repeat BG 1 hr after OGG dose (not 1 hr after feed) |
| **BG screen #2:** Target $> 35$ (birth to 4 hrs) $> 45$ (4-24 hrs) |
| If $\geq$ Target Continue feeds q2-3hrs and perform pre-feed BG screen |
| If $< 25$: Notify Neonatal Provider and administer OGG |
| If 25 to $< \text{Target}$:  
  - Administer OGG immediately  
  - Place skin-to-skin and feed  
  - Repeat BG 1 hr after OGG dose |

Continue feeds q 2-3 hrs with BG screens prior to feeds:
- If $\geq \text{Target}$: continue feeds q2-3hrs and perform pre-feed BG screen
- If $< \text{Target}$: administer OGG, place skin to skin and repeat BG in 1 hr

**BG = 35-44 when between 4 and 24 hours of age**
- Administer OGG immediately
- Place skin-to-skin and feed
- Repeat BG 1 hr after OGG dose
- Notify Neonatal Provider if $> 24$ hr of age

**BG $\geq 45$ when between 4 and 24 hours of age**
- OGG dose not needed
- Continue feeds q2-3hrs and perform pre-feed BG screen

**Notify Neonatal Provider and give OGG immediately if:**
- Infant is symptomatic

**STOP Infant requires total THREE doses OGG since birth below the notification threshold (below):**
- $< 25$ at any time after the first OGG dose
- $< 35$ from $> 4$ -24 hrs of age
- $< 50$ at 24-48 hrs

**STOP WHEN: 4 consecutive values (including post gel screen) in target range for age in hrs:**
- Birth – 4 hr $\geq 35$
- $> 4$-24 hr $\geq 45$
- $> 24$-48 hr $\geq 50$

Revised 8/16/2018
DISCLAIMER REGARDING CLINICAL PRACTICE GUIDELINES AND INDIVIDUAL PHYSICIAN/PATIENT DECISION-MAKING

- This clinical guideline provides reasonable thresholds for intervention; there is lack of consensus as to the actual definition of neonatal hypoglycemia, particularly during the first 24 hours of life.
- If there is concern of hypoglycemia for an infant after the first 24 hours, the infant is to be screened. Infants with whole blood glucose values below 50 (between 24 and 48 hrs of age) or below 60 (at or beyond 48 hrs of age) may be at increased risk for inborn errors of metabolism or endocrine disorders. Close follow up is recommended, and consultation with a pediatric endocrinologist may be appropriate.
- Babies who do not reach a blood glucose of 60 by 48 hrs of age should be watched closely in the outpatient setting for signs and symptoms of metabolic conditions such as Congenital Hyperinsulinemia.
- These guidelines are designed to assist clinicians by providing an analytical framework for the evaluation and treatment of newborns outside the Newborn Intensive Care Unit or Special Care Nursery with transitional neonatal hypoglycemia. They are not intended to either replace a clinician’s judgment or to establish a protocol for all patients with a particular condition.
- Some patients will not fit the clinical conditions contemplated by a guideline.
- Guidelines will rarely establish the only appropriate approach to a clinical problem. However, guidelines do represent an evidence-based and/or expert consensus regarding the clinical problem and reasons for deviating from the guideline should be apparent in the record.

<table>
<thead>
<tr>
<th>Birth Weight</th>
<th>mL to administer</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 kg</td>
<td>1 mL</td>
</tr>
<tr>
<td>&gt; 2 – 2.5 kg</td>
<td>1.25 mL</td>
</tr>
<tr>
<td>&gt; 2.5 – 3 kg</td>
<td>1.5 mL</td>
</tr>
<tr>
<td>&gt; 3 – 3.5 kg</td>
<td>1.75 mL</td>
</tr>
<tr>
<td>&gt; 3.5 – 4 kg</td>
<td>2 mL</td>
</tr>
<tr>
<td>&gt; 4 – 4.5 kg</td>
<td>2.25 mL</td>
</tr>
<tr>
<td>&gt; 4.5 – 5 kg</td>
<td>2.5 mL</td>
</tr>
</tbody>
</table>

40% ORAL GLUCOSE GEL DOSING CHART

*Recommended dose = 0.5mL/kg*