Screening and Management of Asymptomatic Newborns at Risk for Hypoglycemia During First 48 Hours of Life

- **AT RISK NEWBORNS**: SGA, LGA, IDM, Late PT (34⁰⁷ to 36⁰⁷ GA at birth), other clinical situations per physician discretion
- Screening is based on bedside glucose (BG). Whole blood glucose is typically 10-18% lower than plasma glucose
- Throughout this guideline, “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.
  - Symptoms include poor feeding, jitteriness, tremors, floppiness, lethargy, high pitched cry, irritability, grunting, cyanosis, and apnea
  - Contact Neonatal Provider immediately for symptomatic infants and administer **one dose of Oral glucose Gel (OGG)**
- 40% OGG dose: 0.5ml/kg (see dosing chart)

### BG SCREEN 1 AT 30 MIN AFTER COMPLETION OF FIRST FEED
- If ≥ 35 mg/dL: continue feeds q2-3 hrs and perform pre-feed BG screen
- If < 35 mg/dL:
  - Administer OGG immediately
  - Place skin-to-skin and feed
  - Repeat BG 1 hour after OGG dose (not 1 hour after feed)

### BG SCREEN #2: TARGET ≥ 35 mg/dL (BIRTH - 4 HRS), ≥ 45 mg/dL (4 - 24 HRS)
- If ≥ Target continue feeds q2-3 hrs and perform pre-feed BG screen
- If < 25 mg/dL: Notify Neonatal provider and administer OGG
- If 25 to <Target:
  - Administer OGG immediately
  - Place skin-to-skin and feed
  - Repeat BG 1 hour after OGG dose

### CONTINUE FEEDS Q2-3 HRS WITH BG SCREENS PRIOR TO FEEDS:
- If > Target: continue feeds q2-3 hrs and perform pre-feed BG screen
- If < Target: administer OGG, place skin-to-skin and repeat BG in 1 hour

### TARGET GLUCOSE LEVELS:
- ≥ 35 mg/dL from birth to 4 hrs
- ≥ 45 mg/dL from 4 to 24 hrs
- ≥ 50 mg/dL from 24 to 48 hrs

### BG = 35-44 mg/dL BETWEEN 4 AND 24 HOURS OF AGE
- Administer OGG immediately
- Place skin-to-skin and feed
- Repeat BG 1 hour after OGG dose
- Notify Neonatal Provider if > 24 hours of age

### BG > 45 mg/dL BETWEEN 4 AND 24 HRS OF LIFE
- OGG dose not needed
- Continue feeds q2-3 hrs and perform pre-feed BG screen

### NOTIFY NEONATAL PROVIDER AND GIVE OGG IMMEDIATELY IF:
- Infant is symptomatic
- Infant requires total THREE doses OGG since birth
- BG below the notification threshold (below):
  - < 25 mg/dL at any time after the first OGG dose
  - < 35 mg/dL for greater than 4-24 hrs of age
  - < 50 mg/dL at 24-48 hrs of age

### STOP WHEN:
4 consecutive values (including post gel screen) in target range for age in hrs:
- Birth - 4 hrs ≥ 35 mg/dL
- > 4 - 24 hrs ≥ 45 mg/dL
- > 24 - 48 hrs ≥ 50 mg/dL

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This guideline provides reasonable thresholds for intervention, given the lack of consensus regarding the actual definition of neonatal hypoglycemia, particularly during the first 24 hours of life

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<table>
<thead>
<tr>
<th>Birth Weight</th>
<th>OGG ml to administer</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 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>

[https://www.advocatechildrenshospital.com/healthcare-professionals/peds-pathways](https://www.advocatechildrenshospital.com/healthcare-professionals/peds-pathways)