Intrapartum and Postpartum Management of the Diabetic Mother and Infant
Intrapartum Management

- Women with gestational diabetes who maintain normal glucose levels during pregnancy on diet and exercise therapy alone rarely require insulin during labor.
Intrapartum Management

- Management Depends on antepartum control
- Women with poorly controlled diabetes entering labor may require larger doses of insulin
- Newborns are more likely to have severe and prolonged hypoglycemia
Intrapartum Management

- Protocols for intrapartum management of diabetes rely on a combination of glucose and insulin infusion to maintain target glucose ranges.
Intrapartum Management

- According to ACOG and ACE, target range is glucose levels between 70-110 mg/dl
- Frequent monitoring is required
Intrapartum Management

- Check bedside glucose
  - Every 2-4 hours during the latent phase of labor
  - Every 1-2 hours during the active phase of labor
  - Every hour during insulin infusion

- An exception is women with gestational diabetes who maintain normal glucose levels with diet and exercise therapy alone. Glucose levels may be measured every 4-6 hours.
Intrapartum Management

- Glucose Administration
  - Active labor rapidly depletes hepatic stores of glycogen, necessitating caloric supplementation during the active phase
  - Maternal intake is often limited, therefore IV administration is recommended
  - D5NS or D10NS, depending on protocol
Intrapartum Management

- Insulin administration
  - Administered intravenously and titrated to achieve glycemic targets
  - Increased or decreased incrementally with increasing or decreasing maternal blood glucose levels
Intrapartum Management

- Cesarean delivery
  - Ideally scheduled for early morning
  - Take usual nighttime dose but may need to decrease long acting insulin
  - Morning dose held if NPO
  - Monitor during surgery if operation is prolonged or complicated
Postpartum Management

- After delivery of the placenta, the insulin resistant state of pregnancy rapidly disappears.
- Women with pregestational diabetes need close monitoring since insulin requirements drop quickly.
Postpartum Management

- Breastfeeding
  - Strongly encouraged for both gestational and pregestational diabetes
  - Breastfeeding requires an additional 500 calories/day
  - Blood glucose levels can drop rapidly during nursing due to high metabolic demand
Newborn Management

- **Symptomatic** newborn
  - Check immediately
  - If < 40 transfer to NICU for IV glucose
Newborn Management

• Asymptomatic newborn
  • Infants of diabetic mothers - initial testing between 30-60 minutes of age
  • Infants in other risk categories – initial testing within 2 hours after birth
Newborn Management

- Continue to feed infant every 2-3 hours
- Screen glucose prior to each feed unless: 3 consecutive blood glucose levels of >45 mg/dL have been obtained; then check blood glucose levels every other feed for 12-24 hours of life
- If the glucose is 35-45 mg/dL, feed and re-check in 1 hour.
- If glucose level is 0-35 mg/dL; contact physician and plan for transfer to NICU for initiation of IV glucose.
Screening & Management Recommendations for Postnatal Glucose Homeostasis in Late Preterm, Term SGA, & IDM/LGA Infants
Late preterm 34 - 36 and 6/7 weeks and SGA (screen 0-24hrs); IDM and LGA ≥34 weeks (screen 0-12 hrs)

Symptomatic and <40 mg/dl → Transfer to NICU for IV glucose
Symptoms of hypoglycemia include: irritability, tremors, jitteriness, exaggerated Moro reflex, high-pitched cry, seizures, lethargy, floppiness, cyanosis, apnea, tachypnea, hypothermia, and poor feed.

Asymptomatic

<table>
<thead>
<tr>
<th>Birth to 4 hours of age</th>
<th>4 to 24 hours of age</th>
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<tbody>
<tr>
<td>Initial Feed within 1 hour for all babies</td>
<td>Continued feeds q 2-3 hours for all babies</td>
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<tr>
<td>Screen glucose 30-60 minutes after birth for Infant of a Diabetic Mother</td>
<td>Screen glucose prior to each feed until 3 consecutive blood glucose levels of ≥45; then check blood glucose levels every other feed for 12-24 hours of life. (See above)</td>
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<tr>
<td>Screen within 2 hours after birth on infants in other risk categories</td>
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- If initial glucose is 30-40 mg/dl
  - Feed and check in 1 hour
  - Glucose < 25 mg/dL
    - Contact NICU for admission
  - Glucose 25-40 mg/dL
    - Re-feed / recheck in 1 hour

- Glucose 0-35 mg/dL
  - Contact Physician, Transfer to NICU to Start IV Glucose if Needed

- Glucose 35 - 45 mg/dL
  - Re-feed / and re-check glucose level in 1 hour

Target glucose screen ≥45 mg/dL prior to routine feeds

We no longer need to draw Serum Glucose Confirmations!
References

- Wight, N., Marinelli, K., and the Academy of Breastfeeding Medicine Protocol Committee