GDM Screening

- Screen all pregnant women, except those overtly diabetic, for gestational diabetes.
- Screen at 24-28 weeks gestation with a 50-gram oral glucose 1-hr loading test.
- Screen at 12-20 weeks if prior history of GDM, marked obesity, or repetitive glycosuria; if negative, re-test at 24-28 weeks.
- Positive tests ≤20 weeks treat as type-2 diabetic.
- Administer 50-gram oral glucose load without regard to time of last meal or time of day.
- Measure venous plasma level 1 hour after the glucose. Do not use capillary blood (finger stick).
- 50 gram value > 135 mg/dL requires a full 100-gram, 3-hr OGTT.

Alternative GDM Screening

- Use in patients with history of gastric bypass or those who are unable to tolerate OGTT.
- Screen at 24-28 weeks gestation.
- Screen at 12-20 weeks if prior history of GDM, marked obesity, or repetitive glucosuria; if negative, re-test at 24-28 weeks.
- Instruct patient to collect blood sugars for one week: fasting and 1- or 2-hour postprandial.
- Ideal blood glucose levels: FBS <95 mg/dL, 1-hour postprandial <140 mg/dL, and 2-hour postprandial <120 mg/dL.
- If >50% of blood glucose determinations are abnormal: treat as GDM.
- If 25-50% of blood glucose determinations are abnormal, provide dietary counseling and repeat another week of blood sugar measurements.

3 Hour Oral Glucose Tolerance Test

- Instruct patient to fast overnight.
- Measure venous plasma level, if fasting is ≥126 mg/dL: diagnose as GDM.
- If fasting is < 126 mg/dL administer 100-gram glucose solution and measure venous plasma levels at 1, 2, and 3 hours.
- Two or more of the four values above the 4th International Workshop Criteria: diagnose as GDM.

<table>
<thead>
<tr>
<th>Status</th>
<th>4th International Workshop Criteria (mg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting</td>
<td>95</td>
</tr>
<tr>
<td>1 hour</td>
<td>180</td>
</tr>
<tr>
<td>2 hour</td>
<td>155</td>
</tr>
<tr>
<td>3 hour</td>
<td>140</td>
</tr>
</tbody>
</table>

Diet & Exercise Management

- Nutritional counseling with a registered dietician or diabetic educator.
- Caloric recommendations based on pre-pregnancy weight:
  - Underweight: 35-40 kcal/kg
  - Average weight: 30-35 kcal/kg
  - Overweight: 25 kcal/kg
  - 40-45% complex carbohydrates, 20-30% fat, 20-30% protein; no concentrated sweets.
  - Exercise: walk 30 min per day, 5 days per week.
- Pattern blood sugar: 4 per day: fasting (AM), 1 or 2 hr postprandial (breakfast, lunch, dinner).
- > 50% blood sugars within normal range: may reduce PBS to one day per week (4 values) the day before her clinic appoint.
- 50% fasting levels above ideal range despite compliance with diet: manage with glyburide or insulin and daily PBS.

Medical Management A1 GDM

- Diet-controlled GDM does not place the pregnancy at increased risk of stillbirth.
- Blood glucose monitoring: one day per week to monitor for worsening glycemic status and need for hypoglycemic medications.
- Weekly antenatal testing starting at 40 weeks gestation.
- Ultrasound for growth at 36-37 weeks to evaluate for macrosomia.
- Estimated fetal weight exceeds 4200-4500 grams, offer cesarean delivery.
- Delivery between 40-41 weeks of gestation.
- 6-8 weeks post-partum screen for Type 2 diabetes: 75-gram 2 hr OGTT.

Quality Indicators/Benchmarks

- GDM screening-all patients except overt diabetics
- Diabetic education before 32 weeks for diagnosed GDM
Medical Management A2 GDM

- GDM requiring hypoglycemic agents does place the pregnancy at an increased risk of stillbirth.
- Blood glucose monitoring: 4 times daily for the remainder of pregnancy, weekly visits until meds achieve adequate control.
- Prior to 32 weeks, once adequate blood sugar control is attained, visits every 2 weeks. After 32 weeks, weekly visits.
- 32 weeks: start weekly antenatal testing. Poor glycemic control: twice weekly testing.
- Ultrasound for growth at 36-37 weeks to monitor for macrosomia.
- Estimated fetal weight exceeds 4200-4500 grams, offer cesarean delivery.
- Delivery between 39-40 weeks of gestation.
- 6-8 weeks post-partum screen for Type 2 diabetes: 75-gram 2 hour glucose tolerance test.

Glyburide

- Starting dose: 2.5mg twice a day; increase in 2.5 mg increments to a maximum dose of 10mg twice daily.
- For patients who fail to achieve glycemic goals of <95 FBS and <120 2-hr postprandial, doses should be escalated at least weekly up to the maximum. If a majority of the PBS are suboptimal, despite the maximum dose of glyburide and diet compliance, then the patient should be switched to insulin therapy.

Insulin

- Total Insulin Dose†:
  - 2nd trimester: 0.8 U/kg
  - 3rd trimester: 1.0 U/kg

  **Preferred**
  - Insulin Glargine or detemir: Administer entire dose at the same time daily‡
  - Alternative
    - Insulin NPH: Administer 2/3 of total dose in AM and 1/3 at bedtime§

  **Preferred**
  - Insulin Lispro/Aspart: Administer 1/3 of total dose prior to each meal: breakfast, lunch, dinner
  - Alternative
    - Regular Insulin

Adjustment to Insulin

- Adjustments to long-acting insulin should not be made more frequently than every 48 hours.
- Adjust insulin when >50% of blood sugars are greater than target (FBS >95 mg/dL, 1-hour postprandial >140mg/dL, 2-hour postprandial >120mg/dL).
- Adjustments to long-acting insulin will correct fasting blood sugars.
- Adjustments to pre-meal short acting insulin will correct the postprandial blood sugar for that meal.
- Increases to insulin can be made in increments of 10%. For patients in the inpatient setting, more aggressive dose-adjustment can be performed in the face of marked hyperglycemia.

Safety & Counseling

- Fast-acting insulin should not be injected unless the patient is planning to eat immediately.
- Any patient on insulin should receive a prescription for a glucagon kit. At least one family member or housemate should be instructed on how and when to administer glucagon.

Alabama Perinatal Excellence Collaborative

This document should not be construed as dictating an exclusive course of treatment or procedure to be followed.

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