

# GESTATIONAL DIABETES (GDM) MANAGEMENT TIPS



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# OUTLINE

- Pregnancy & Insulin Resistance
- Screening for GDM and Unique Considerations
- Helping patients understand diagnosis
- Nutrition management
- Glucose Monitoring
- Medication Options
- Blooming Mom Top Three Tips

# DIABETES PATHOPHYSIOLOGY

- Gestational Diabetes Mellitus (GDM) is defined as any glucose intolerance with the onset or first recognition during pregnancy.

# RISK FACTORS FOR GDM

- Pregnancy
- Significantly overweight
- Increasing maternal age
- History of GDM
- History of having a large for gestational age baby
- Family history of diabetes





## TWO-PART SCREENING METHOD-PART 1

Drink a 50-gram glucose solution (non-fasting), with blood sugar measured 1 hour later.

If the blood sugar level result is  $\geq 130$  mg/dL, 135 mg/dL, or 140 mg/dL (set by the institution), then the screening test shows an increased risk for GDM. Schedule a 100-gram diagnostic OGTT to diagnose GDM.

# TWO-PART SCREENING METHOD

## PART 2

Drink a 100-gram diagnostic OGTT after you've been fasting for 8 or more hours.

The diagnosis of GDM is made when at least one or two (set by the institution) of the following blood sugar values (measured fasting and 1-hour, 2-hours, and 3-hours after the test) are met or exceeded

**Table 4: Carpenter-Couston (CC) or National Diabetes Data Group (NDDG) Criteria**

	CC	NDDG
Fasting	95 mg/dL	105 mg/dL
1-hour	180 mg/dL	190 mg/dL
2-hours	155 mg/dL	165 mg/dL
3-hours	140 mg/dL	145 mg/dL

**G D M   D I A G N O S T I C   C R I T E R I A**

# GLUCOSE MONITORING

Fasting	<95 mg/dl
One hour post-prandial target	< 140 mg/dl
Two hour post prandial glucose target	<120 mg/dl
<ul style="list-style-type: none"><li>• Typical frequency of testing during pregnancy is 4 times per day (fasting and 1-hour after each meal)</li><li>• One hour post-meal values correlate most closely with outcomes such as macrosomia and neonatal hypoglycemia</li></ul>	

# NUTRITION MANAGEMENT

- Focus on nutrition quality & balance... not dietary restrictions!
- Demonstrate real meals and real portions
  - Use plate planners
  - Encourage patients to take photos of their meals
- Use the food label when necessary but keep it simple
  - Serving Size
  - Teach how to calculate carbs based on actual portion consumed... Remember, carb counting is not for everyone
  - Tailor approach to carb management (common recs are a variation of 30, 45, 60 grams per meal)
- Emphasize role of fiber has in slowing digestion and potential for preventing blood glucose spikes

# CULTURAL COMPETENCE & SENSITIVITY

Ask yourself...

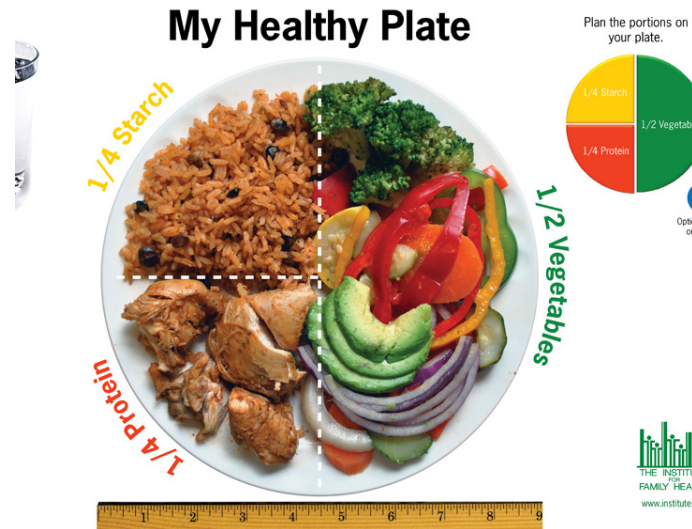
- Are services rendered with patient language and cultural preferences in mind?
- How does culture play into their understanding of GDM, pregnancy and glucose management?
- What are the patient's barriers/concerns?
- Are you familiar with their cultural foods/practices?





# TOOLS

Date	Before Breakfast	1h or 2h after Breakfast	1h or 2hr after Lunch



Nutrition Facts	
8 servings per container	
<b>Serving size</b> 2/3 cup (55g)	
<b>Amount per serving</b>	
<b>Calories</b> 230	
% Daily Value*	
<b>Total Fat</b> 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
<b>Cholesterol</b> 0mg	0%
<b>Sodium</b> 160mg	7%
<b>Total Carbohydrate</b> 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
<b>Protein</b> 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



# NON-FOOD FACTORS THAT IMPACT BLOOD SUGAR LEVELS

- Stress hormones
- Placental growth hormones
- Short sleep duration
- Physical Activity
- Illness

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|---|
| ❖ Begin with 500 mg once or twice daily with food, depending on the pattern of hyperglycemia.   |
| ❖ Increase dose by 500 mg every 3-7 days as limited by GI side effects until glycemic targets are met or maximum daily dose of 2500 mg. |
| ❖ Obtain serum creatinine at start of therapy if renal dysfunction is suspected. Metformin is cleared in the kidneys.                   |
| ❖ Drug should be discontinued prior to major surgery, or radiological studies involving contrast materials.                             |
| ❖ Metformin may be associated with mild weight loss.  |

M e t f o r m i n   D r u g   S u m m a r y   i n   P r e g n a n c y

**MEDICATION: METFORMIN**

**CDAPP SWEET  
SUCCESS GUIDELINES  
FOR CARE**



❖	Begin with 1.25 mg/day (maternal body weight < 200 lbs) or 2.5 mg (maternal body weight ≥ 200 lbs).
❖	Administer 60 minutes premeal. Administration closer to the meal may result in symptomatic hypoglycemia 1-2 hours post meal.
❖	To control fasting plasma glucose, glyburide can be given at 10 to 11 PM.
❖	Increase by 1.25 mg to 2.5 mg, every 3-7 days until glycemic targets are met or maximum daily dose of 20 mg.
❖	Teach hypoglycemia prevention and management.
❖	Adhere to MNT meal and snack regimen to avoid hypoglycemia.
❖	Monitor weight as glyburide is associated with weight gain.
❖	Glyburide can be used postpartum.

### Glyburide Drug Summary in Pregnancy

**MEDICATION: GLYBURIDE**

CDAPP SWEET SUCCESS  
GUIDELINES FOR CARE

# MEDICATION: INSULIN

CDAPP SWEET SUCCESS  
GUIDELINES FOR CARE

## Sample Insulin Initiation Protocol

Address	blood sugars that are the most elevated first
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Aim	to prevent hypoglycemia
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Work	closely with patient to review glucose logs and adjust dose as needed
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Gestational Age	Insulin Dose
0-12 weeks	0.6-0.7 units per kg actual body weight
13-28 week	0.7-0.8 units per kg actual body weight
29-34 weeks	0.8-0.9 units per kg actual body weight
35-40 weeks	0.9-1 units per kg actual body weight

<b>Instructions</b> <ul style="list-style-type: none"><li>• Calculate the total daily dose (TDD) of insulin for 24 hours</li><li>• Divide into 50% mealtime rapid acting insulin analog (bolus) and 50% NPH insulin (basal)<ul style="list-style-type: none"><li>• Bolus: Divide total bolus into three doses given before breakfast, lunch and dinner</li><li>• Basal (NPH): Divide total basal into three doses given before breakfast, dinner and bedtime</li></ul></li><li>• Adjust based on blood glucose patterns, meal plan and activity, increasing or decreasing insulin by 2 units based on blood glucose findings 1 hour after meals</li></ul> <p><i>Example: A 50 kg woman at 29 weeks gestation has a TDD of 40-45 units (0.8-0.9 units kg x 50 kg = 40-45 units)</i> Divided in equal parts as bolus and basal (20-22.5 units total) Bolus: Divided into three equal parts = 6.6-7.5 units before breakfast, lunch and dinner Basal: Divided into three equal parts = 6.6-7.5 units before breakfast, dinner and bedtime</p>	
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# INSULIN CONSIDERATIONS

- Insulin may be initiated if nutrition management and/or oral hypoglycemic agents do not improve blood sugars
- Of particular focus is getting fasting blood sugars under control
  - If fastings are elevated it may be difficult to get them well-controlled without meds





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## **TOP THREE TIPS:**

- Start with understanding individual and what impacts their glucose levels
- Promote normoglycemia without encouraging restrictive diets
- Aggressively monitor glucose levels and adjust management accordingly

# REFERENCES

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