

## Gestational Diabetes

### *Nutrition guidelines*

*This handout is for patients who have gestational diabetes. It explains how the condition occurs and gives guidelines for meeting your special nutritional needs.*

### What is gestational diabetes?

*Diabetes* is a disease that occurs when blood *glucose* (blood sugar) is too high. *Gestational* diabetes (GD) is a type of diabetes that can occur during pregnancy.

GD can appear towards the end of the pregnancy. This is when the placenta produces extra *hormones* to help the baby grow.

### What causes GD?

Hormones from the placenta can block the mother's body from using the hormone *insulin*. Insulin helps our cells use food for energy. It is produced by an organ called the *pancreas*.



*Talk with your provider if you have any questions about gestational diabetes.*

When the placenta hormones are very high:

- Insulin doesn't "latch" properly to the cells in the mother's body. This is called *insulin resistance*. It usually lasts until the baby is born.
- The mother's pancreas has to make extra insulin to keep their blood glucose (blood sugar) levels steady.

Because of insulin resistance, the mother's body needs a lot more insulin than usual. By the time the baby is ready to be born, that insulin need can be as much as 3 times more than usual. (See graph "Mother's Needs for Insulin During Pregnancy" on page 2.)

If the mother's pancreas cannot make enough insulin, glucose cannot move from the blood into the cell for use as energy. Instead, the mother's blood glucose rises above normal. This causes GD.

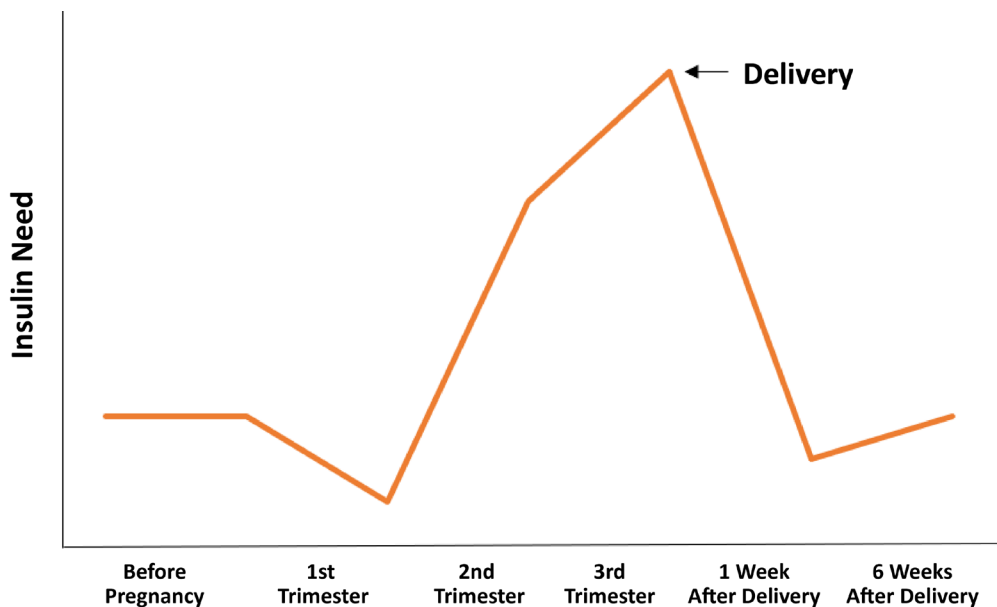
### How does GD affect my unborn baby?

If GD is not treated, the extra glucose in the mother's blood crosses the placenta. This can cause the baby to gain extra weight. A large baby can cause problems for both the mother and baby during labor and birth.

### How is GD treated?

- **Eating plan:** Your treatment will include an eating plan created just for you. We will teach you how to manage your carbohydrate intake at meals and snacks to keep your blood glucose levels in healthful ranges.
- **Glucose monitoring:** You will also need to check your blood glucose before and after meals. This will help you know how much carbohydrate is right for you.
- **Diabetes medicines:** Some patients will also need to take diabetes medicine. If your doctor prescribes diabetes medicine, you must still manage your carbohydrate intake for the rest of your pregnancy.

### Mother's Needs for Insulin During Pregnancy



*This graph shows how the mother's need for insulin changes because of insulin resistance during pregnancy. This insulin need grows until the baby is delivered, and then usually drops off quickly. Most times, the mother's insulin need will return to normal around 6 weeks after delivery.*

## **Does having GD affect me later in life?**

GD usually goes away after delivery, when the hormones return to their normal levels. But, about half of all patients who have GD develop type 2 diabetes later in life.

Get tested for diabetes within the first 12 weeks after your baby is born. Your doctor will check that your blood glucose has returned to normal. If your blood glucose is still high, you may have type 2 diabetes.

## **What can I do to prevent or delay type 2 diabetes later in life?**

You can do a lot to prevent or delay type 2 diabetes. Here are steps to take if you had GD:

- Stay active and get regular exercise.
- Make healthy food choices to get back to a healthy weight.
- Breastfeed your baby. Breastfeeding can help you lose weight after pregnancy. This may lower your risk of developing type 2 diabetes later in life.
- Be sure to tell all of your future healthcare providers that you had GD.

## **Does having GD affect my child later in life?**

If you had GD during pregnancy, your child is more likely to be overweight or obese, or develop type 2 diabetes. To help you and your child lower your risk of these problems:

- Reach and maintain a healthy weight that is right for you
- Make healthful food choices
- Be physically active

## **Basic Nutrition Guidelines**

If you have GD:

- Follow a balanced meal plan. This includes having carbohydrate, protein, and fat at each meal.
- Eating small meals more often may help you reach your blood glucose goals. Space your meals and snacks throughout the day. Eat every 3 to 4 hours.

- Keep your carbohydrate intake at the same level from day to day. Carbohydrate foods include starches, fruits, milk, and sweets (desserts).
- You may have more insulin resistance in the morning. Because of this, eat fewer carbohydrates at breakfast than at other meals.
- Drink plenty of water! Besides plain water, you can also try seltzer water, mineral water, tea, coffee, and sugar-free, caffeine-free soft drinks.
- Limit fruit juice to no more than ½ cup (4 ounces) per day.
- Increase the amount of fiber in your diet. Choose breads, cereals and crackers with at least 3 grams of fiber per serving. Include fresh fruits and vegetables in your menus every day.
- According to the American Diabetes Association, if you choose to use an artificial sweetener, it is best to use aspartame (Equal or NutraSweet), sucralose (Splenda), acesulfame-K (Sunette or SweetOne), or stevia (Truvia or SweetLeaf). We do **not** advise using saccharin (Sweet N Low) if you are pregnant or breastfeeding.
- Many people find that keeping a food diary can help them manage their blood-glucose. Your food diary and your log of your blood glucose readings will help your healthcare team know how much carbohydrate is right for you at mealtime and snacks.

## Carbohydrates and Gestational Diabetes

In GD, insulin resistance is often greater in the morning hours and lower in the afternoon and evening. This means you may have higher blood glucose readings in the morning.

Here is a basic guideline for your daily carbohydrate intake:

- **Breakfast:** No more than 30 grams of carbohydrate
- **Lunch and dinner:** No more than 45 to 60 grams of carbohydrate
- **Snacks:** 15 to 20 grams of carbohydrate

Each person's body is different. Check your blood glucose after each meal to help us know your carbohydrate needs.

## Blood Glucose Goals

Here are your goals for blood glucose, both fasting and after a meal:

- Fasting glucose = less than 95 mg/dL
- 1 hour after a meal = less than 140 mg/dL
- 2 hours after a meal = less than 120 mg/dL

## Carbohydrate Foods

Here are some common carbohydrate foods. Each portion listed equals **15 grams of carbohydrate**:

- 1 cup milk (whole, 1% or 2%)
- 1 cup light (low-sugar) yogurt
- ½ cup cooked hot cereal
- 1 slice bread
- 1 medium tortilla
- ½ English muffin
- ⅓ cup **cooked** rice or pasta
- 3 to 4 cups plain popcorn
- ½ cup corn
- ½ medium baked potato or ½ cup mashed potato
- ⅓ cup **cooked** beans or lentils
- 4 to 6 crackers
- 1 cup berries
- ½ banana
- 1 small apple
- 4 oz. fruit juice

## Sample Menus

<b>Breakfast</b>	<b>Option #1</b>		<b>Option #2</b>	
30 grams (g) carbohydrate; include a protein food	2 slices wheat toast Peanut butter, eggs, or meat	30 g 0 g <b>Total: 30 g</b>	½ English muffin Cheese 1 cup milk	15 g 0 g 12 g <b>Total: 27 g</b>
<b>Morning Snack</b>	<b>Option #1</b>		<b>Option #2</b>	
15 to 20 g carbohydrate	1 small apple ¼ cup nuts	15 g 0 g	Light yogurt or plain yogurt	10 to 20 g
<b>Lunch</b>	<b>Option #1</b>		<b>Option #2</b>	
30 to 60 g carbohydrate; include a protein food	Sandwich with 2 slices bread Fish, poultry, meat, lettuce, mayo 1 cup berries (no sugar) Vegetable or vegetable soup	30 g 0 g 15 g 0 g <b>Total: 45 g</b>	Vegetable salad with ½ to ¾ cup protein Salad dressing Wheat roll (2 oz.) or 8 to 12 crackers ½ banana 1 cup milk	0 g 0 g 30 g 15 g 12 g <b>Total: 57 g</b>
<b>Afternoon Snack</b>	<b>Option #1</b>		<b>Option #2</b>	
15 to 20 g carbohydrate	4 to 6 crackers Cheese	15 g 0 g <b>Total: 15 g</b>	1 small apple ¼ cup nuts	15 g 0 g <b>Total: 15 g</b>
<b>Dinner</b>	<b>Option #1</b>		<b>Option #2</b>	
30 to 60 g carbohydrate; include a protein food	3 to 4 oz. fish, poultry, pork, or beef 1 cup potato Vegetable salad Salad dressing 1 cup milk ½ cup ice cream	0 g 30 g 0 g 0 g 12 g 15 g <b>Total: 57 g</b>	3 to 4 oz. fish, poultry, beef, or tofu 1 cup rice or pasta Vegetables or vegetable soup 1 cup water Light yogurt	0 g 45 g 0 g 0 g 15 g <b>Total: 60 g</b>
<b>Evening Snack</b>	<b>Option #1</b>		<b>Option #2</b>	
15 to 20 g carbohydrate	1 cup milk 1 graham cracker sheet	12 g 15 g <b>Total: 27 g</b>	3 to 5 cups popcorn Grated Parmesan cheese	20 to 25 g 0 g <b>Total: 20 to 25 g</b>

<b>Nutrition Facts</b>	
8 servings per container	
<b>Serving size</b>	<b>2/3 cup (55g)</b>
<b>Amount per serving</b>	
<b>Calories</b>	<b>230</b>
<b>% Daily Value*</b>	
<b>Total Fat</b> 8g	<b>10%</b>
Saturated Fat 1g	5%
Trans Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 160mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>13%</b>
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.

The Nutrition Facts label on packaged foods shows the amount of Total Carbohydrate contained in 1 serving.

## Be a Wise Shopper

When choosing packaged foods, always check the Nutrition Label. Here's what to look for:

- Find the **Serving size**. Is it more or less than the amount you are using in your meal plan?
- Look at the **Total Carbohydrate**. Carbohydrates raise blood glucose more than other nutrients. How many grams of carbohydrate do you aim to have at each meal?
  - Keep in mind that "total sugar" is *included* in Total Carbohydrate.
- Depending on your dietary needs, you may also want to check amounts of other nutrients such as sodium or protein.

## Label Terms

The Food and Drug Administration (FDA) has clear rules for terms that are used on food packages. Here are some of the most common terms you will see and what they mean:

- Fat free = Less than 0.5 grams of fat per serving
- Low fat = 3 grams or less per serving
- Low saturated fat = 1 gram saturated fat or less per serving
- Low sodium = 140 mg sodium or less per serving
- Low calorie = 40 calories or less per serving
- Lean = Less than 10 grams of fat, 4 grams of saturated fat and 95 mg of cholesterol per serving
- Light =  $\frac{1}{3}$  fewer calories or 50% less fat than the regular version or no more than  $\frac{1}{2}$  of the sodium than the higher sodium version
- Reduced = 25% less of a specific nutrient, or 25% fewer calories than the regular version

## Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

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