

Diabetes in Pregnancy



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What is Diabetes?

- Diabetes means that your body has a problem with a hormone called insulin. Insulin helps the body use sugar from our blood for energy. When you have diabetes your body either does not make enough insulin or it does not use insulin as well as it should. This causes glucose (sugar) to build up in the blood and cause high blood sugar levels.



Types of Diabetes

Type 1 Diabetes:

- The body does not make insulin
- Treatment is always diet, exercise and insulin

Type 2 Diabetes:

- The body makes some insulin but not enough
- Treated with diet, exercise and if necessary medications by mouth and/or insulin

Gestational Diabetes:

- The body has a problem with insulin while pregnant.
- This means you have too much glucose (sugar) in your blood. This can harm your baby.
- Treated with diet, exercise and if necessary medications by mouth and/or insulin
- Blood sugars often return to normal after delivery.

Both mother and baby are at high risk for problems during pregnancy if blood sugar is not under control. Taking care of your diabetes when you are pregnant is vital to help you stay healthy and have a healthy baby.

How does (Gestational) Diabetes affect your baby?

- Macrosomia (large size baby)
- Hypoglycemia at birth (low blood sugar)
- Higher risk for breathing problems
- Higher risk of serious birth defects or stillbirth, if your blood glucose is too high during the 1st trimester (first 3 months of pregnancy)
- Higher risk for obesity, early onset of Type 2 Diabetes and other problems

**Having gestational diabetes does not mean your baby will be born with diabetes.*

How does having (Gestational) Diabetes affect you?

- Have a higher risk for preeclampsia (high blood pressure) during pregnancy
- Have a higher risk for premature labor and/or premature delivery
- Have a high risk for developing diabetes in the next 5 years. Regular exercise and weight management can help to reduce your risk, and it is important to have regular check-ups with your doctor to monitor your glucose levels

How is Gestational Diabetes Treated?

- **Food Plan:** A registered dietitian (RD) will help you create a food plan. This food plan will provide all of the calories (energy) and other nutrients that you and your baby need.
- **Being Active:** Physical activity and exercise (at least 30 minutes daily) help lower blood glucose levels.
- **Medication:** In addition to following a meal plan, you may need to take medicine (including insulin) to keep your blood glucose level normal for the safety of your baby.
- **Checking your blood glucose:** You will need to check your blood glucose (sugar) levels 4 times daily to make sure your glucose (sugar) levels stay normal, or as directed by your doctor.
 - Fasting blood glucose (sugar) (first thing in the morning before any food or drink).
Goal: Less than 95mg/dL
 - 1 hour after each meal (time starts after first bite of food) .
Goal: less than 140mg/dL

- Carbohydrates are also known as starches.
- **Carbohydrates affect your blood glucose** (blood sugar levels) and can make your levels go up. These need to be consumed in moderation, steadily through the day.
- Fats and proteins **do not** affect your blood sugar levels
- It is important to eat **at least one protein food** with every meal and snack

| Energy Nutrients | | |
|------------------|----------------|----------------|
| Carbohydrate | Protein | Fat |
| Breads/Tortillas | Fish | Oil |
| Crackers/ Chips | Chicken | Olives |
| Pasta | Ham | Margarine |
| Rice | Bacon | Mayonnaise |
| Grains | Sausage | Salad Dressing |
| Beans | Turkey | Cream Cheese |
| Legumes | Eggs | Butter |
| Corn | Cheese | Cream |
| Peas | Beef | Lard |
| Potatoes | Cottage Cheese | Coconut oil |
| Milk | Lamb | Chitterlings |
| Soy Mild | Pork | Fat Back |
| Yogurt | Veggie Burger | |
| Fruits | Tofu | |
| Fruit Juices | Tempeh | |
| Sweets | Peanut Butter | |
| Cakes | Edamame | |
| Cookies | Falafel | |
| Ice Cream | Nuts | |
| Jam/Jelly | | |
| Honey | | |
| Sweet Tea | | |
| Soda | | |
| Energy Drinks | | |

How much carbohydrate can you eat?

- The balance between carbohydrate intake and insulin determines your blood glucose (blood sugar) levels after eating.
- Carbohydrate counting is important to help control your blood glucose (blood sugar). Your food plan can help keep your blood glucose (sugar) levels normal.
- Your blood glucose levels will rise above normal if you eat too many carbohydrates.

What kind of carbohydrate foods should you eat?

- The healthiest carbohydrate foods give you fiber, vitamins, minerals and other nutrients, as well as calories.
- Some carbohydrate foods made with lots of sugar, provide calories but few nutrients. Tips for Choosing Carbohydrates chart show those foods to choose more often and those to limit.

| Choose These Foods <u>MORE</u> Often: | Eat <u>LESS</u> of these Foods: |
|--|--|
| Whole Wheat Bread | White bread |
| Whole grain cereal | Sugar Cereals |
| Brown rice | White rice |
| Whole grain pasta | White pasta |
| Whole grain crackers (ex: Triscuits) | Cookies |
| Fruit | Pies, Cakes, Pastries |
| Low Fat or Fat free milk and yogurt | Ice Cream |

Gestational Diabetes Meal Plan

| | Breakfast | Snack 1 | Lunch | Snack 2 | Dinner | Snack 3 |
|---|------------------|----------------|--------------|----------------|---------------|----------------|
| Carbohydrates Servings (15 grams=1 Serving) | 2 | 1 | 3 | 1-2 | 3 | 1-2 |
| Protein Servings | ≥1 | 1 | ≥1 | 1 | ≥1 | 1 |
| Menu Ideas | | | | | | |

Counting Carbohydrates

- Carbohydrate Counting is a way to help you plan what you eat. Carbohydrates are counted in units called carbohydrate choices. **One serving/ choice** of a food with carbohydrates has about **15 grams of carbohydrates**
- It is very important to check serving sizes with measuring cups and spoons or a food scale

Two ways to determine how many carbohydrates are in a foods item:

1. Read the Nutrition Facts Label on foods
 2. Use the food list (provided in this handout) to identify the portion of common foods that contain 15 grams of carbohydrates if you do not have a Nutrition Facts label to go by
- **Food Plan Tips:**
 - Eat 3 meals and 3 snacks about the same time every day.
 - Exclude fruit juice, fruit and bagels from breakfast since your body will be more sensitive to the glucose in the morning, causing your blood glucose to rise too high. You may also need to exclude milk (test first).
 - Eat a variety of foods from each food group daily to get nutrients your baby needs
 - Measure your foods when you begin your food plan (to learn correct portions)
 - Avoid “empty-calorie” carbohydrates (chips, candy, sugary drinks, sweets, etc.

Label Reading for Carbohydrate Counting

| Nutrition Facts | |
|---|--------------------------------|
| Serving Size 1 cup (4 oz) | |
| Serving Per Container 3 | |
| Amount Per Serving | |
| Calories 75 Calories from Fat 27 | |
| | % Daily Value* |
| Total Fat 3 g | 5% |
| Saturated Fat 0 g | 0% |
| Cholesterol 0 mg | 0% |
| Sodium 300 mg | 4% |
| Total Carbohydrate 10 g | 3% |
| Dietary Fiber 5 g | 20% |
| Sugars 3 g | |
| Protein 2 g | |
| Vitamin A 80% - Vitamin C 60% - Calcium 4% - Iron 4% | |
| * Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs: | |
| | Calories: 2,000 2,500 |
| Total Fat | Less than 65g 80g |
| Sat Fat | Less than 20g 25g |
| Cholesterol | Less than 300mg 300mg |
| Sodium | Less than 2,400mg 2,400mg |
| Total Carbohydrate | 300g 375g |
| Dietary Fiber | 25g 30g |
| Calories per gram: Fat 9 • Carbohydrate 4 • Protein 4 | |

The serving size for the food is 1 cup.

There are 3 servings or 3 cups in this container.

The total carbohydrate tells how many grams of carbohydrate are in 1 serving.

Sugar is already included in the total carbohydrate amount. This value shows the amount of natural or added sugar.

Remember 1 serving of Carbohydrates = 15 grams

- In this example, 1 serving of the food is equal to 1 cup.
- There are 10 grams of Total Carbohydrates in this food.
 $10 \text{ grams} \div 15 \text{ grams} = 0.67$

Therefore 1 serving (1 cup) of this foods provides about 1 serving of carbohydrates

Counting Carbohydrates Using Foods Labels

| Carbohydrate Choices or Servings | Target Grams of Carbohydrates | Carbohydrate Range per Serving (grams) |
|----------------------------------|-------------------------------|--|
| 1 | 15 | 8-22 grams |
| 2 | 30 | 23-37 grams |
| 3 | 45 | 38-42 grams |
| 4 | 60 | 43-65 grams |
| 5 | 75 | 66-80 grams |



Free Foods: Non-Starchy Vegetables

| | | | | |
|-------------------|-----------|-----------|-----------------|-----------|
| Broccoli | Kale | Carrots | Green Beans | Spinach |
| Lettuce Greens | Tomato | Cucumbers | Cauliflower | Collard |
| Mustard Greens | Eggplant | Okra | Brussel Sprouts | Asparagus |
| Beets | Radishes | Zucchini | Cabbage | Mushrooms |
| Turnips | Peppers | Celery | Onion | Kohlrabi |
| Summer squash | Artichoke | Rutabaga | Garlic | |

* If you eat **MORE** than 1 ½ cups of cooked non-starchy vegetables at **ONE meal**, you must count them as 1 carbohydrate serving/choice.

Carbohydrate Choices (1 serving = 15 grams of carbohydrates)

Starches

| | |
|--|------------------------------------|
| 1 slice of whole wheat bread | ½ cup of mashed potatoes |
| 2 slices reduced-calorie wheat bread | 1 ½ graham cracker sheets |
| ½ medium bagel | ¾ oz pretzels or baked chips |
| ½ English muffin | 3-4 Lance crackers |
| ½ hamburger or hotdog bun | 3 cups popcorn (popped) |
| 1 tortilla (6 inches) | 6 saltine or butter round crackers |
| 1 waffle (4 inches) | 55 Goldfish crackers |
| 1 pancake (4 inches) | 2 rice cakes (4 inches each) |
| ½ cups grits, oatmeal (not instant) or cream of wheat | |
| 1/3 cup cooked brown rice | 5-6 Triscuits |
| 1/3 cup whole wheat pasta | 5 vanilla wafers |
| 1/3 cup barley, couscous, millet, quinoa or polenta | |
| ½ cup corn or green peas | ¾ cup cereal, ready to eat |
| ½ cup of beans (black, pinto, navy or kidney), lentils or split peas | |
| 1/3 cup of baked beans | 12 French fries |
| ¼ large baked potato (3oz) | 1 cup of soup |

Fruit

| | |
|--|-----------------------------------|
| 1 small apple, pear, orange, mango, papaya or peach | |
| 1 cup melon or berries | ½ large banana |
| 2 Tablespoons of dried fruit | 3 medium prunes |
| 17 small grapes | ½ cup of fruit juice, unsweetened |
| ½ cup fresh, frozen or canned (packed in juice or water) fruit | |

Milk

| |
|---|
| 1 cup of milk (Nonfat, 1%, 2% or whole) |
| 1 cup of soy, rice or almond milk (unsweetened) |
| 2/3 cup of yogurt |

Sweets

| | |
|-----------------------------|-------------------------------|
| ½ cup of ice cream, regular | 2 inch square cake, unfrosted |
| 2 small cookies | ½ cup sugar free pudding |
| 1 inch square brownie | |

- Combination foods (lasagna, casseroles)~1 cup is equal to 2 servings of carbohydrates

High Protein Foods List

| <u>Food</u> | <u>Serving Size</u> | <u>Protein Amount</u> |
|------------------------------|---------------------|-----------------------|
| Ground Sirloin | 3oz | 24 grams |
| Tofu, firm | ½ cup | 20 grams |
| Tuna Fish, in water | 3 oz | 20 |
| grams | | |
| Pork Tenderloin | 3 oz | 18 grams |
| Chicken Breast | 3 oz | 13 grams |
| Cottage cheese, low fat | ½ cup | 13 grams |
| Soy Beans | ½ cup | 11 grams |
| Veggie or Soy Burger | ½ cup | 11 grams |
| Pumpkin Seeds | 1 oz | 8.5 grams |
| Egg Substitute | 1 egg, ¼ cup | 7.5 grams |
| Whole Egg | 1 each | 7 grams |
| Cheese | 1 slice (1 oz) | 7 |
| grams | | |
| Nuts (almonds, peanuts, etc) | 1 oz | 6 grams |
| Fish | 1 oz | 6 grams |
| Sunflower Seeds | 1 oz | 5.5 grams |
| * Soy Milk | 8 oz (1 cup) | 11 grams |
| *Milk (2% or skim) | 8 oz (1 cup) | 8 |
| grams | | |
| *Greek Yogurt | 6 oz | 11 grams |
| *Beans | ½ cup | 7 grams |

* Carbohydrates also




















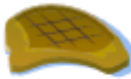


(Adapted from High Proteins Food List @ Academy of Nutrition & Dietetics)



Portion Estimator

Manage portions so you can manage your diabetes. Meal planning is a big part of living with diabetes. It does not have to be hard. Learning to estimate how much to eat and drink can help. Use things you see every day for comparison to make this easier.

- Plan how much you will eat, so you can follow your meal plan.
- Keep accurate food diaries of what you have eaten and drank.

| Portion Equivalents: | | | |
|----------------------|---|---|--|
| 1 cup |  one-cup measure |  size of baseball |  2 scoops mashed potatoes |
| 1/2 cup |  half-cup measure |  size of lightbulb |  a scoop of ice cream |
| 1/3 cup |  third-cup measure |  size of egg |  small handful of crackers |
| 2 Tablespoons |  2 T measuring spoons |  size of golf ball |  small scoop of peanut butter |
| 1 Tablespoon |  Tablespoon measure |  size of thumb |  dollop of Miracle Whip |
| 1 teaspoon |  teaspoon measure |  size of penny |  pat of butter |
| 3 ounces (oz) |  size and thickness of a deck of cards |  small pork chop | |
| 1 ounce (oz) |  size of 4 dice |  meat, fish fillet, chicken | |



(Adapted from: RxSolution.com/Diabetes)

Being Active during Pregnancy with (Gestational) Diabetes

For most women with gestational diabetes, being active is safe and healthy. Be sure to talk to your doctor before you start any kind of exercise regimen. Make sure that the activities you choose are safe for you and your baby during pregnancy. Then, if it is safe, let's start moving!



How Much Time Should You Spend Being Active?

Ask your doctor about how much exercise you should get. For most pregnant women, 30 minutes of activity every day is a good goal. You may want to break your daily goal into shorter periods of time.

Exercise Tips:

- Exercise one to two hours after a meal to help keep your blood sugar levels normal.
- Drink water before, during, and after you exercise. Your body loses water even if you do not sweat. You may need to take a break so you can drink the water you need.
- Check your heart rate while you exercise. Your doctor or nurse can show you how to check your heart rate. They can also tell you how to know whether your heart rate is safe.
- Do not exercise in hot or humid weather.
- Do not exercise for more than 60 minutes at a time.



Exercising If You Take Insulin or Glyburide

- Check your blood glucose level before and after you exercise.
- You may need to have a small snack with carbohydrates before you become active. This snack will help prevent hypoglycemia (dangerously low blood glucose).
- Do not exercise if your blood glucose is below 80 mg/dL or above 250 mg/dL.
- You may need to adjust the amount of insulin when you are exercising. Your doctor or diabetes educator will tell you how much to take.



Reasons to Stop Exercising Immediately

If you have any of the following, stop exercising and call your doctor right away:

- Contractions, cramps, bleeding, or labor pains
- Any kind of pain in your chest or stomach, or below your waist
- Dizziness, shortness of breath, or trouble breathing
- Rapid heartbeats
- Trouble walking

Meal Options for Dining Out

Breakfast

McDonald's

- Egg McMuffin (Calories 300, Carbohydrates 30g, Protein 18g)
- Sausage Burrito (Calories 300, Carbohydrates 26g, Protein 12g)
- Fruit N Yogurt Parfait with Granola (Calories 160, Carbohydrates 31g, Protein 4g)

Biscuitville

- Turkey sausage & egg English Muffin (Calories 300, Carbohydrates 26g, Protein 36 g)

Bojangles

- Sausage and egg biscuit (Calories 544, Carbohydrates 34g, Protein 17g)
- Bacon, egg and cheese biscuit (Calories 549, Carbohydrates 35g, Protein 20g)

Lunch or Dinner

Chick-Fil-A

- Chargrilled Chicken Sandwich (Calories 300, Carbohydrates 38g, Protein 29g)
- Kid's Meal: 6 count chicken nuggets with small waffle fry (Calories 510, Carbohydrates 44g, Protein 24g)

McDonald's

- Ranch Grilled Chicken Snack Wrap (Calories 270, Carbohydrates 25g, Protein 16g)
- McChicken Sandwich (Calories 360, Carbohydrates 40g, Protein 14g)
- Cheeseburger (Calories 300, Carbohydrates 33g, Protein 15g)

- McNuggets (6 piece) *NO SAUCE* (Calories 280, Carbohydrates 20g, Protein 13g)
- Small Fry (Calories 231, Carbohydrates 30g, Protein 3g)

Wendy's

- Large Chili (Calories 250, Carbohydrates 23g, Protein 25g)
- Ultimate Grilled Chicken Sandwich (Calories 370, Carbohydrates 42g, Protein 34g)

Subway

- 6" Subway Club with No cheese on Whole Wheat (Toasted) (Calories 310, Carbohydrates 46g, Protein 23g)
- 6" Roast Beef with No cheese on Whole Wheat (Toasted) (Calories 320, Carbohydrates 45g, Protein 24g)
- 6" Turkey with No cheese on Whole Wheat (Toasted) (Calories 280, Carbohydrates 46g, Protein 18g)

*Nutrition information taken from Restaurant's Websites directly

Snack Ideas

(10-20grams of carbohydrate)

- ¼ cup dried fruit and nut mix
- 1 cup chicken noodle soup, tomato soup (made with water), or vegetable soup
- 1 small apple or orange + 2 Tablespoons of nut butter, low-fat string cheese or nuts
- 3 cups light popcorn + 1 low-fat string cheese
- 1/3 cup hummus + 1 cup raw fresh cut veggies (green peppers, carrots, broccoli, cucumber, celery, cauliflower or a combination of these)
- ½ cup cottage cheese + ½ cup canned or fresh fruit
- 1 cheese quesadilla (made with one 6-inch corn or whole wheat tortilla + 1 oz shredded cheese) + ¼ cup salsa
- 2 rice cakes (with a 4-inch diameter) + 2 Tablespoons nut butter
- 5 whole wheat crackers (or ¾ oz) + 1 low-fat string cheese
- ½ turkey sandwich (1 slice whole wheat bread + 2 oz turkey + mustard)
- ½ cup tuna or chicken salad + 4 saltines
- ½ English muffin + 2 Tablespoons of nut butter or low fat cheese slice
- ½ grilled cheese (1 slice whole wheat bread + low-fat cheese slice)
- 6 oz Greek yogurt (be sure to read label for grams of carbohydrate)
- ½ banana + 2 Tablespoons of nut butter

Practice Time!

Take some time to practice. Look at the following meals and snacks and try to estimate the grams of carbohydrates contained in each. You can use the food list in this handout to assist you. Check your answers on the back of this page.

1. For breakfast you eat 2 Eggo waffles with 2 Tablespoons of maple syrup and some butter, 1 cup of strawberries and 1 cup of skim milk.

Total Carbohydrate Servings: _____

2. For snack you have 1 small apple with 2 Tablespoons of peanut butter and 1 cup of whole milk.

Total Carbohydrate Servings: _____

3. For lunch you have a toasted 6" Subway turkey sandwich on whole wheat bread with cheese, lettuce, tomato and mayo. You also decide to have 1 bag of potato chips with a sweet tea.

Total Carbohydrate Servings: _____

4. For dinner you have 1 piece of meatloaf, mashed potatoes and green beans with 1 cup of skim milk.

Total Carbohydrate Servings: _____

5. For a bedtime treat you decide to have 1 cup of chocolate ice cream.

Total Carbohydrate Servings: _____

Answer Sheet

1. Total of 5 Carbohydrate servings (71g)
 - Eggo Waffle: 13g of CHO/waffle= 26g of CHO
 - 2 Tablespoons syrup= 15g of CHO
 - 1 cup of strawberries= 15g of CHO
 - 1 cup of skim milk= 15g of CHO
 - Butter does not count toward carbohydrates
2. Total of 2 Carbohydrate servings (30g)
 - 1 small apple= 15g of CHO
 - 2 Tablespoons of peanut butter has no carbohydrate servings
 - 1 cup of whole milk= 15g of CHO
3. Total of 7 Carbohydrate servings (105g)
 - Sweet Tea (16oz)= 44g of CHO
 - 1 bag of potato chips= 15g of CHO
 - Bread on Turkey Sub= 46g of CHO (turkey, lettuce, tomato and mayo do not count toward carbohydrates)
4. Total of 2 Carbohydrate servings (30g)
 - Mashed potatoes= 15g of CHO (assuming you eat only 1 serving of ½ cup)
 - 1 cup of skim milk= 15g of CHO
 - Meatloaf does not count toward carbohydrates
5. Total of 2 Carbohydrate servings (30g)
 - 1 cup of ice cream is two servings= 30g of CHO

***CHO= carbohydrates**