

2022

Diabetes in Pregnancy: Nutrition

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WHAT IS DIABETES?

Diabetes is a problem with your body that causes blood glucose (sugar) levels to rise higher than normal. Diabetes means that your body has a problem with a hormone called insulin.

When you eat, your body breaks food down into sugar and sends it into the blood. Insulin then helps move the sugar from the blood into the cells for energy. When sugar enters cells, it is either used right away, or stored for later use.

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 sugar to build up in your bloodstream. This is also called hyperglycemia.

WHAT ARE THE TYPES OF DIABETES?

Type 1 Diabetes:

- The body makes little or no insulin and blood sugar levels become dangerously high.
- People with type 1 diabetes manage blood sugar with insulin, diet, and exercise.

Type 2 Diabetes:

- The body makes some insulin but not enough, or the body doesn't use insulin properly. This is called insulin resistance.
- Over time, the body is not able to keep up and can't make enough insulin to keep blood sugar levels normal.
- Type 2 diabetes is treated with lifestyle changes including diet and exercise. Oral medications (pills) and insulin may also be needed.

Gestational Diabetes:

- Occurs when the body cannot make enough insulin during pregnancy.
- During pregnancy, the placenta releases hormones that cause the body's cells to use insulin less efficiently. This causes too much sugar to stay in the bloodstream. This is called insulin resistance.
- Diet and exercise can help manage blood sugar levels. Oral medicines or insulin may also be needed.
- Blood sugars often return to normal after the baby is delivered.



WHAT TREATMENTS ARE USED FOR DIABETES IN PREGNANCY?

1. **Meal Plan:** What you eat, how much you eat, and when you eat can impact blood sugar levels. A registered dietitian can help you create a food plan to reach your goals for blood sugar, balanced nutrition, and weight gain.
2. **Being Active:** Physical activity and exercise (at least 30 minutes daily) help manage blood sugar levels. Activity provides other health benefits during pregnancy.
3. **Medication:** In addition to following a meal plan, you might need to take medicine or insulin to keep your blood sugar levels on target for the safety of you and your baby.
4. **Checking your blood sugar:** You will need to check your blood sugar levels 4 times per day or as directed by your provider. Here are your goals:
 - Fasting blood sugar:
 - Less than 95 mg/dL
 - Check this as soon as you wake up before you eat, drink, or get ready for the day
 - Postprandial blood sugar (1 hour after meals):
 - Less than 140 mg/dL
 - Check this **1 hour after your first bite of food**. Check after breakfast, lunch, and dinner.
 - Do not check your blood sugar after snacks



HOW DOES FOOD AFFECT YOUR BLOOD SUGAR?

After you eat, carbohydrates break down into sugar. Carbohydrates are the body's main source of energy. When you have diabetes in pregnancy, not enough sugar is moving from your bloodstream to your cells. This causes your blood sugar levels to rise higher than normal.

WHAT FOODS HAVE CARBOHYDRATES?

- Grains:
 - Breads, tortillas, crackers, cereals, pasta, rice, quinoa, barley, oats
- Starchy vegetables:
 - Potatoes, corn, peas, winter squash, plantains
 - Beans and legumes
- Dairy:
 - Milk, soy milk, oat milk, and yogurt
- Fruits and fruit juices
 - Apples, oranges, banana, berries, mango, melon, all fruit juice
- Sweets:
 - Cakes, cookies, pastries, ice cream, chocolate, candies, jam, jelly
- Sugar sweetened beverages:
 - Soda, energy drinks, sweet tea, lemonade, sweetened coffee

SHOULD YOU EAT CARBOHYDRATES IF YOU HAVE DIABETES?

Yes, absolutely! You need carbohydrates for energy and your baby needs carbohydrates to grow. Eating carbohydrates in the right amount, and with other types of foods, will help your blood sugar be more stable.

WHAT ELSE SHOULD YOU EAT WITH CARBOHYDRATES?

- Carbohydrate digestion is slowed down by protein, fat, and fiber. These make a meal more blood sugar-friendly and give you a feeling of fullness.
 - Eat protein with every meal and snack
 - Add non-starchy vegetables to your meals, aiming for 3 cups per day
 - Add healthful fats to your meals

MORNINGS CAN BE CHALLENGING:

- You may be more sensitive to carbohydrate in the morning. For this reason, the recommended amount of carbohydrate is lower at breakfast than at lunch and dinner.
- Some people with diabetes in pregnancy have higher blood sugars when they eat fruit or drink milk with breakfast. If this is true for you, have your fruit and milk later in the day.

CARBOHYDRATES, PROTEINS, FATS, NON-STARCHY VEGETABLES

Carbohydrates	Proteins	Fats	Non-Starchy Vegetables
Bread/Tortillas Roti/Chapati/Idli Crackers/Chips Rice/Pasta Cereal/Oatmeal Quinoa/Barley Beans/Peas/Lentils Corn/Popcorn Potatoes/Yams Plantains Fufu/Ugali Cow's Milk Soy Milk Yogurt Fruit Foods to limit: Breaded meat/fish Fruit Juices Cakes/Cookies Pan Dulce Concha Bread Ice Cream Jam/Jelly Sugar/Honey/Syrup Sweet Tea Soda Energy Drinks Sports Drinks Sweetened coffee	Fish Chicken Turkey Eggs Low fat Cheese Beef Cheese Cottage Cheese Lamb Pork Tofu Tempeh Peanut Butter Edamame Nuts Seeds Foods to limit: Ham Bacon Turkey bacon Sausage Hot Dogs Pepperoni Jerky Deli meat	Olive Oil Canola Oil Vegetable Oil Peanut Oil Olives Mayonnaise Salad Dressing Avocado Foods to limit: Cream Cheese Butter Cream Lard Coconut Oil Palm Oil Chitterlings Fatback Chicken Skin Pork Rinds	Artichoke Asparagus Beets Broccoli Brussel Sprouts Cabbage Carrots Cauliflower Celery Chayote Collard Greens Cucumbers Eggplant Garlic Green Beans Kale Kohlrabi Mushrooms Mustard Greens Nopal (cactus leaves) Okra Onion Peppers Radishes Rutabaga Spinach Summer squash Tomato Turnips Zucchini

CARBOHYDRATE SERVINGS

1 serving = 15 grams of carbohydrates

Meal Goal: 2-3 servings or 30-45 grams carbohydrate

Snack Goal: 1-2 servings or 15-30 grams carbohydrate

STARCH (each of these = 1 serving)	
1 slice of sandwich bread	½ cup mashed potatoes
1 corn tortilla (6 inch)	¼ large baked or sweet potato (3 ounces)
¼ medium bagel	1/3 cup plantains
½ English muffin	12 French fries
½ hamburger or hotdog bun	1/3 cup baked beans
1 waffle	3-4 Lance crackers
1 pancake (4 inches)	3 cups popcorn
¾ cup cold cereal	6 Saltine crackers or butter round crackers
½ cup cooked oatmeal or grits	5-6 Triscuit crackers
½ cup corn or 1 ear of corn	1 ½ graham cracker sheets
½ cup cooked or canned beans/lentils/peas	2 rice cakes (4 inches each)
1/3 cup rice, barley, millet, quinoa	¾ ounce pretzels
1/3 cup pasta, couscous, polenta	1 ounce chips (tortilla, potato)

FRUIT (each of these = 1 serving)	
1 cup melon, berries, or papaya	17 small grapes
¾ cup pineapple	½ cup mango
½ large banana	1 small apple, pear, orange, peach
2 Tablespoons of raisins	½ cup of fruit juice, unsweetened
3 medium prunes	½ cup fresh, frozen or canned fruit (packed in juice or water)
1 medjool date or 3 small (deglet noor) dates	

MILK (each of these = 1 serving)	
1 cup of milk (Nonfat, 1%, 2% or whole)	
1 cup of soy milk* or oat milk*	
2/3 cup of yogurt*	
*Carbohydrate content can vary. Check the food label for the most accurate information.	

SWEETS (each of these = 1 serving)	
½ cup of ice cream, regular	1 inch square brownie
2 inch square cake, unfrosted	1 Tablespoon maple syrup, honey, sugar
2 small cookies	½ cup sugar free pudding

COMBINATION FOODS
Soup or stew (meat + vegetables in broth): 1 cup = 1 serving or 15 grams carbohydrate
Pizza: 1/3 of a 12-inch pizza, thin crust = 2 servings or 30 grams carbohydrate
Casserole-type entrees (tuna noodle, lasagna, spaghetti and meatballs, chili with beans, macaroni and cheese): 1 cup = 2 servings or 30 grams carbohydrate

LABEL READING FOR CARBOHYDRATE COUNTING

Nutrition Facts	
12 servings	
Serving size	1 muffin
<hr/>	
Amount per serving	
Calories	260
<hr/>	
	% Daily Value*
Total Fat 14g	18%
Saturated Fat 3g	15%
Trans Fat 0g	
Cholesterol 30mg	10%
Sodium 210mg	9%
Total Carbohydrate 35g	13%
Dietary Fiber 0g	0%
Total Sugars 18g	
Includes 5g Added Sugars	10%
Protein 4g	
<hr/>	
Vitamin D 1mcg	6%
Calcium 34mg	2%
Iron 1mg	6%
Potassium 77mg	2%
<hr/>	
*The % Daily Value 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.	

Step 1: Look at Serving Size

The serving size for this food is 1 muffin.

Step 2: Look at Total Carbohydrate

1 muffin has 35g (grams) of carbohydrate

Sugar and fiber are already included in the total carbohydrate amount.

Remember 1 serving of carbohydrate = 15 grams

- In this example, 1 serving of the food is equal to 1 muffin
- There are 35 grams of total carbohydrates in one serving of this food.

$$1 \text{ serving} = 15 \text{ grams carbohydrates}$$

$$35 \text{ grams} \div 15 \text{ grams} = 2.3 \text{ (round to 2)}$$

- So 1 serving of this food (or 1 muffin) provides about 2 serving of carbohydrate or 30 grams of carbohydrate

MEAL PLAN

	Breakfast	Snack	Lunch	Snack	Dinner	Snack
Carbohydrate Servings	2 (30 grams)	1 (15 grams)	3 (45 grams)	1 or 2 (15-30 grams)	3 (45 grams)	1 or 2 (15-30 grams)
Protein*	20-30 grams	7-10 grams	20-30 grams	7-10 grams	20-30 grams	7-10-grams
Examples:	1 slice of whole wheat toast + 6 ounces Greek yogurt + 2 scrambled eggs	6 whole wheat crackers + 1-2 cheese sticks	1 corn tortilla + ½ cup beans + 3 oz chicken + non-starchy vegetables + 1 small orange	1 small apple + 2 Tbsp. peanut butter or 1 oz nuts	1 cup of rice + 3-4 oz low mercury fish + non-starchy vegetables	1 cup milk + 3 graham cracker squares + peanut butter

*1 serving of protein = 7 grams of protein. See pages 15-16 for information on the protein content of different foods.

ADDITIONAL TIPS

- Your body is more sensitive to carbohydrates in the morning
 - Eating fruit or drinking milk at breakfast might make your blood sugar rise too high. If this happens to you, have your fruit and milk at your other meals and snacks.
- If your fasting blood sugar is high, try adding a little more protein to your evening snack (at least 10-15 grams)
- Add non-starchy vegetables to at least 2 meals or snacks per day
- Add 2-3 servings of fruit per day, spread out into different meals, and snacks
- Add 3 servings of calcium-rich foods or beverages. Good sources include milk, cheese, yogurt, tofu, dark leafy greens, and canned salmon or sardines with bones.
- **Not adding enough carbohydrates to your day can actually lead to high blood sugars later on or the next day. Consistency is the goal!**

MIX AND MATCH MEALS

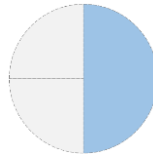
Choose one item in each column to create a meal. Follow each row across for suggested combinations or mix and match one item from each column.



1/4 of your plate lean protein



































1/4 of your plate grains or starchy vegetable



1/2 of your plate nonstarchy vegetable



Serving of fruit or dairy

Lean Protein (3-4 ounces)	Grains or Starchy Vegetable (30 grams carb)	Nonstarchy Vegetable	Fruit or Dairy (15 grams carb)
 Chicken breast	 2/3 cup wheat pasta	 Asparagus	 1 small apple
 Sirloin steak	 1 cup roasted potatoes	 Green beans	 17 grapes
 Pork chop	 1 cup corn	 Side salad	 1 cup milk
 Shrimp	 1 cup green peas	 Cauliflower	 1 small orange
 Salmon	 2/3 cup brown rice	 Broccoli	 1 1/4 cup strawberries
 Eggs	 2 slices whole grain bread	 Sweet bell peppers	 1 cup yogurt
 Cottage cheese	 4 slices crisp bread	 Carrot and celery sticks	 1 cup soy milk
 Tofu	 1 small sweet potato	 Zucchini	 1/2 cup fruit juice

BREAKFAST IDEAS

2 carbohydrate servings (or 30 g of carbohydrate) + protein

1



2



3



4



5



6



1. ½ cup grits + ½ cup beans + eggs + salsa
2. Scrambled eggs on 2 slices of avocado toast
3. 2 dosas (10-inch diameter each) with eggs and vegetables
4. 1 corn tortilla, ½ cup beans, scrambled eggs with sausage
5. 2/3 cup Greek yogurt, 1 slice whole wheat toast with peanut butter
6. 2 slices of whole grain toast with cottage cheese and tomatoes

LUNCH OR DINNER IDEAS

3 carbohydrate servings (or 45 grams of carbohydrate) + protein

1



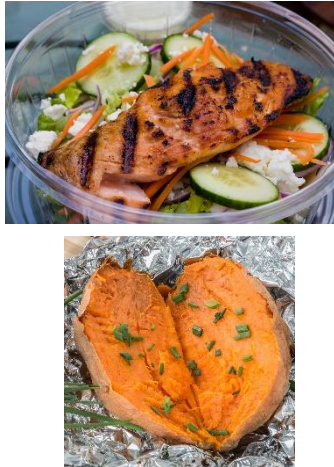
2



3



4



5



6



1. Grilled chicken sandwich on a bun, side salad with dressing, 1 orange
2. 2 corn tortillas, ½ cup beans, meat, vegetables, avocado
3. Shrimp and vegetable stir fry with 1 cup rice
4. Grilled salmon salad with a medium sweet potato
5. Meat curry or stew with vegetables and 1 cup rice
6. Saag paneer, vegetable soup with ½ cup lentils, 1 chapati (6-inch diameter each)

SNACK IDEAS

1 carbohydrate serving (or 15 grams of carbohydrate) + protein

1



2



3



4



5



6



1. 5-6 crackers + cheese
2. 1 serving flavored Greek yogurt + blueberries
3. 1 small apple + 1 ounce of nuts
4. Protein bar (choose one with about 15 g carbohydrate and about 10 g protein)
5. 1 cup (8 ounces) of cow's milk
6. Trail mix with 2 Tablespoons dried fruit + 1 ounce nuts/seeds

MORE SNACK IDEAS

1 carbohydrate serving (or 15 grams of carbohydrate) + protein

- 1 small apple or orange + 2 Tablespoons of nut butter, or ¼ cup nuts
- 3 cups light popcorn + cheese or ¼ cup pumpkin seeds
- ¾ cup pineapple + ½ cup cottage cheese
- 1 cheese quesadilla made with one 6-inch corn or whole wheat tortilla + shredded cheese + salsa
- 2 rice cakes (with a 4-inch diameter) + 2 Tablespoons nut butter
- 5-6 whole wheat crackers + cheese
- 5-6 crackers + tuna or chicken salad
- 1 slice whole wheat bread + heated turkey + mayo or mustard
- ½ English muffin + 2 Tablespoons of nut butter or cheese slices
- Greek yogurt (be sure to read label for grams of carbohydrate)
- ½ banana + 2 Tablespoons of nut butter
- 1/2 cup hummus + 1 cup raw fresh cut veggies (green peppers, carrots, broccoli, cucumber, celery, cauliflower or a combination of these)



BEING ACTIVE DURING PREGNANCY WITH DIABETES

For most people with diabetes in pregnancy, being active is safe and healthy. Be sure to talk to your doctor, midwife, or nurse practitioner before you start any kind of exercise.

How Much Time Should You Spend Being Active?

Ask your doctor, midwife, or nurse practitioner about how much exercise you should get. For most pregnant people, 30 minutes of activity 5 days/week is a good goal. You may want to break your daily goal into shorter periods of time.



Exercise Tips:

- Exercising after a meal can help lower blood sugar
- 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.
- Do not exercise in very hot or humid weather.
- Do not exercise for more than 60 minutes at a time.

Exercising If You Take Insulin

- Check your blood sugar 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 sugar).
- Do not exercise if your blood sugar 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

FAST FOOD* EXAMPLES

Breakfast	Carbohydrates (grams)	Protein (grams)
McDonald's <ul style="list-style-type: none"> • Egg McMuffin • Sausage McMuffin with egg • Sausage Burrito 	30 30 25	17 20 13
Starbucks <ul style="list-style-type: none"> • Spinach, Feta, Egg White Wrap • Kale and mushroom egg bites + a tall sugar free vanilla latte 	34 26	20 25
Chick-Fil-A <ul style="list-style-type: none"> • Egg White Grill • Sausage, egg, cheese muffin • Greek yogurt parfait with granola 	30 20 36	26 23 13

Lunch/Dinner	Carbohydrates (grams)	Protein (grams)
Panera <ul style="list-style-type: none"> • Green Goddess Cobb salad (half) + grilled cheese sandwich (half) 	48	30
Chipotle <ul style="list-style-type: none"> • Chicken burrito bowl with black beans, "light rice" • 3 steak tacos with pinto beans, no rice 	40-50 depending on toppings 50	42 32
Chick-Fil-A <ul style="list-style-type: none"> • Grilled chicken sandwich + kale crunch salad • Grilled market salad with grilled chicken 	50 41	30 28

*Fast food and restaurant food is normally very high in sodium and saturated fat and should be limited

*For the most accurate information, check the restaurant's website for nutrition information.

1 carbohydrate serving = 15 grams of carbohydrate
Meal Goal: Eat 2-3 servings (30-45 grams) of carbohydrate
Snack Goal: Eat 1-2 (15-30 grams) of carbohydrate

PROTEIN CONTENT OF FOOD

Meal goal: At least 20-30 grams of protein

Snack goal: At least 7-10 grams of protein.

Meat, Poultry, Eggs, Meat Substitutes:

Food (cooked)	Serving Size	Protein (g)
Chicken, skinless	3 oz	28
Steak	3 oz	26
Turkey, roasted	3 oz	25
Lamb	3 oz	23
Pork	3 oz	22
Tofu, firm	3 oz	10
Egg, large	1 egg	6

Seafood:

Food (cooked)	Serving Size (oz)	Protein (g)
Salmon/ Tuna	3	22
Shrimp	3	20
Lobster/ Scallops	3	16
Scallops	3	14

Nuts and Seeds

Food	Serving Size	Protein (g)
Soy Nuts	1 oz	12
Pumpkin Seeds	1 oz	9
Peanuts/Peanut Butter	1 oz/ 2 Tablespoons	7-8
Almonds/ Pistachios	1 oz	6
Flax seeds/ Sunflower seeds	1 oz	6
Chia Seeds/ Cashews	1 oz	5
Walnuts	1 oz	4

Legumes, Grains (these also contain carbohydrates)

Food (cooked)	Serving Size (cup)	Protein (g)
Pinto Beans	½	11
Adzuki Beans/ Lentils/ Edamame	½	9
Black Beans/ Red Kidney Beans	½	8
Chickpeas/ Black-eyed Peas/ Fava Beans	½	7
Lima Beans	½	6
Wheat Berries/ Kamut	½	6

PROTEIN CONTENT OF FOOD, CONTINUED

Meal goal: At least 20-30 grams of protein

Snack goal: At least 7-10 grams of protein.

Dairy Products

Food	Serving Size	Protein (g)
Greek Yogurt	1 cup	17 (varies, check the label)
Cottage Cheese	4 oz	14
Milk*	1 cup	8
Soy Milk*	1 cup	8
Cheese (mozzarella, cheddar, provolone)	1 oz or 1 slice	7
String Cheese	1 pieces	7

*These also contain carbohydrates

