

OHIO STATE MATERNITY CENTER

buckeyebaby



Gestational Diabetes



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER



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About Gestational Diabetes

Gestational diabetes is high blood glucose (blood sugar) during pregnancy. It begins in the second or third trimester and often goes away (85 to 90 percent of the time) after the baby is born.

What causes gestational diabetes?

Pregnancy itself is the cause. During pregnancy, your baby gets food from you. The placenta is an organ in the uterus (womb) that supplies food to your baby. The umbilical cord connects your baby to the placenta. The placenta also makes hormones that raise your blood sugar. Insulin lets your body use blood sugar for energy. Some women cannot make enough insulin to cover this increased need for insulin during pregnancy. This results in gestational diabetes.

Will my baby be healthy?

Yes, you can have a healthy baby. The most important thing is to keep your blood sugar level as close to normal as possible (60 to 120 mg/dl).

High blood sugar during pregnancy can cause:

- A very large baby, which makes delivery more difficult and could slow the baby's lung development.
- Birth defects in the baby.
- Low blood sugar, also called hypoglycemia, in the baby during the first few hours or days after birth. Hypoglycemia can be checked by frequent tests of the baby's blood sugar after birth.

As a mother with gestational diabetes, you will be followed closely to find out how your baby is developing. You will have tests to check your baby's heart rate, growth, and movement. Problems are less common if you keep your blood sugar in a healthy range.

What can I do to keep my blood sugar in a healthy range?

You can help keep your blood sugar in a healthy range by:

- Following your diet.
- Doing moderate exercise.
- Checking your blood sugar.

Talk with your doctor, nurse, and dietitian about your diet. Staying on your diet is often the best way to keep your blood sugar level in the normal range. Sometimes diet is not enough and insulin is needed to manage blood sugar. Insulin cannot be taken as a pill. It must be taken as an injection (shot).

If you need insulin, your nurse will also show you:

- How to prepare and give yourself a shot.
- How to recognize the signs of too little insulin (high blood sugar) or too much insulin (low blood sugar).

How do I check my blood sugar?

Self-monitoring of blood glucose is used to check your blood sugar. The test is done by sticking your finger for a drop of blood. The drop of blood is put on a special chemically treated strip. Your nurse will show you how this is done. Your blood sugar level will need to be checked 4 to 8 times a day.

Checking your blood for glucose and urine for ketones helps you to know how well you are managing your diabetes. Urine does not normally have ketones. Ketones in your urine mean that your body is using fat for energy, and your diabetes is not well managed. Your doctor will tell you if you need to check your urine for ketones and how often to check.

During pregnancy, more sugar is normally present in the urine, so urine sugar levels are not as accurate as blood sugar levels to look at how well diabetes is being managed.

Your nurse will show you how to check your blood sugar and urine ketone levels, if needed. Keep a detailed record, so changes can be made in your diet, activity, and insulin. Your doctor and nurse will go over your glucose and ketone records at each visit.

What are the chances my baby will have diabetes?

The chances of your baby having diabetes at birth are very small. Most children of mothers who had diabetes during pregnancy never develop diabetes. Those who do develop diabetes usually do so later in life.

What are my chances of developing diabetes?

If you become a parent again, there is a 90 percent chance of having gestational diabetes. There is also a 50 to 60 percent chance you will develop type 2 diabetes later in life if you had gestational diabetes. You can reduce your risk of later developing diabetes by maintaining a normal weight. If you are overweight, losing weight is very important. Your doctor will talk to you about testing for diabetes 6 to 12 weeks after delivery.

Can I breastfeed my baby?

Yes! Most mothers with gestational diabetes have normal blood sugar levels soon after delivery. Your doctor will discuss your condition with you after the birth of your baby. You should be able to breastfeed even if your diabetes is still present. You may need more calories than before pregnancy to help you make milk for your baby. A dietitian will help you plan changes in your diet. Your doctor will make changes in your insulin if it is still needed. These changes are important for your health and your baby's health.

What does all this mean for me?

The more you know about gestational diabetes, the easier it will be to manage your blood sugar and prevent problems for you and your baby. There are many health professionals to help you, but you are responsible for your care each day. If you take good care of yourself, you will increase your chances of having a healthy baby.

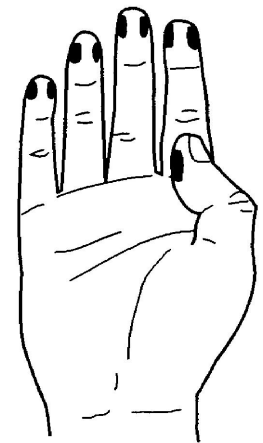
How to Use a Glucose Meter

Using a glucose meter to check your blood sugar level gives you information that will help you to manage your diabetes. Learn how to use your meter, so you are able to check your blood sugar fast and with ease to get accurate results. Read the owner's manual and work with your nurse, doctor, or pharmacist to show you how to use your meter. Practice with your meter following these basic steps.



1. Wash your hands with warm water and soap for at least 15 seconds. Rinse with clean water and towel dry.
 - This removes germs from your hands but also helps to warm your fingers, so you will bleed more easily.
 - If you are not able to wash your hands, use an alcohol pad to clean the side of the finger you will stick to get a blood drop.
 - If you are using a site other than a finger, cleanse that site with soap and water or use an alcohol pad to clean the site.
2. Gather your supplies:
 - Your meter
 - Test strips for your meter
 - Lancing device
 - Lancet or needle
 - Log book or record sheet and pen or pencil
3. Open the lancing device and put a lancet in. Remove the cover on the lancet, being careful not to touch the needle.
4. Put the cover back on the lancing device. Set the lancing device, so it is ready to be used to stick you. Put it down for now.

5. Get a test strip.
 - Open the vial or bottle holding the strips, remove one, and close the bottle right away, or
 - Tear open the foil cover to get your strip out for your meter.
 - If your meter stores the strips inside the meter, go to the next step.
6. Turn your meter on. Pushing a button often does this, but some meters turn on by placing the strip in the meter.
7. Check the screen for the code on your meter. Be sure it matches the code on your test strips.
 - The code is most often on the bottle or vial, or the wrapped strip will have the code printed on the wrapper.
 - If your meter has the code built into the strips, go to the next step.
8. When the test strip symbol flashes on the screen, put the test strip in the meter.
9. Pick up the lancing device and place it against the site that you are going to use. You can get a drop of blood from:
 - The sides of your fingers and thumbs. Use a different finger each time you test to avoid infection, soreness, and calluses. Avoid using the tip of your finger as this is the most sensitive area of the finger, and you may feel more pain here.
 - Forearms or top of legs if an alternate site meter is used. Be sure you have warmed the site, so you will bleed.
10. Push the button on the lancing device to release the needle. You will feel the stick. Set the lancing device down.
11. Squeeze your finger, so you get a large drop of blood.
12. Put the blood on or in the test strip, being sure you have filled the test area.
13. The meter will allow time for the test, and then your glucose result will show on the screen.
14. Write the glucose reading on your log book or record sheet.
15. Remove the test strip and turn off the meter by pressing the on/off button. Some meters may turn off when the strip is removed. You can throw the test strip away in your trash can.
16. Remove the lancet from the lancing device. Throw the lancet into a puncture proof container, such as a sharps or needle disposal container or an empty, heavy plastic bleach or detergent bottle with lid. You can buy a needle disposal container at the drug store. Ask your pharmacist or nurse how you should throw away your container when it is full. You can also check with your garbage collector.
17. Put your supplies away, so they are ready when you need them again.



Ask your nurse, doctor, or pharmacist if you have questions about your meter and doing your glucose testing. Most meter companies will have a 1-800 phone number available around the clock if you have problems with the meter or doing your testing.

Blood Sugar Record

Patient's Name: _____ Patient's Date of Birth: _____

Diabetes Medicines and Doses:

Please share this record with staff weekly at clinic visits or via email or fax.

Date	Fasting Blood Sugar Before Breakfast	Blood Sugar 2 Hours After Breakfast	Blood Sugar 2 Hours After Lunch	Blood Sugar 2 Hours After Dinner	Blood Sugar at Bedtime

My Diabetic Meal Plan During Pregnancy

When you have diabetes and are pregnant, you need to eat small meals and snacks throughout the day to help manage your blood sugar. This also helps you get enough nutrients for a healthy pregnancy.

Calories come from carbohydrates, protein, or fat. Carbohydrates have the largest and quickest effect on blood sugar. High carbohydrate food groups include:

- Starch, which includes whole grain foods and starchy vegetables
- Milk and yogurt
- Fruit

By following a carbohydrate controlled diet, you can manage your blood sugar better. **This is important for you and your baby.**

The amount of carbohydrates you need in your diet

- The amount of carbohydrates you need is based on your height, weight, activity level, blood sugar levels, and pregnancy nutrient needs.
- Ask your dietitian or nurse about your specific carbohydrate needs and read this handout for more information. **The best place to start is to make changes to the type and amount of carbohydrates in your diet.**
 - Most pregnant women do well with 30 to 60 grams of carbohydrates per meal (2 to 4 servings of carbohydrates per meal).
 - Snacks are also recommended to satisfy hunger and carbohydrate needs. Each snack should contain 15 to 30 grams of carbohydrates.
- Eat your meals and snacks at about the same times each day. This will help to keep your blood sugar in a healthy range for your health and the growth of your baby.
- 15 grams of carbohydrates = 1 carb choice or serving

Carbohydrate counting

Carbohydrate counting, also called carb counting, is a meal planning tool for people living with diabetes. Carb counting involves using food labels and estimating portion sizes of foods to keep track of the amount of carbohydrates you eat with each meal or snack.

Carbohydrates are one of the main nutrients found in food and drinks. Protein and fat are the other main nutrients. Carbohydrates include starches, fiber, and sugars. Carb counting can help to keep your blood sugar levels in a healthy range because carbohydrates affect your blood sugar more than other nutrients.

How to Count Carbohydrates

When reading food labels, use these tips to help you count carbohydrates:

1. Check the serving size. All nutritional information on the label is based on 1 serving. Look at the common measure, such as cups or tablespoons. The grams (g) listed are the weight of the serving.

The serving size for this product is 1 cup.

2. Look for total carbohydrates in grams. This includes the fiber, sugars, and other carbohydrates in the food. Use this number when counting carbohydrates.

There are 22 grams of carbohydrates in this product per serving. If you ate 2 servings of this food, you would be getting 44 grams of carbohydrates.

3. Compare food labels. Start comparing the serving sizes of products you eat, and then compare the grams of total carbohydrates. Look at the fiber and sugar content. Please note that products marked as “sugar free,” “reduced sugar,” or “no sugar added” are not necessarily carbohydrate-free. Read the product’s food label to understand how many carbs you are eating.



Nutrition Facts	
6 servings per container	
Serving size	1 cup (140g)
Amount per serving	
Calories	170
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 3g	15%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 5mg	0%
Total Carbohydrate 22g	8%
Dietary Fiber 2g	7%
Total Sugars 16g	
Includes 8g Added Sugars	16%
Protein 2g	
Vitamin D 0mcg	0%
Calcium 20mg	2%
Iron 1mg	6%
Potassium 240mg	6%

*The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet 2000 calories a day is used for general nutrition advice.

Carbohydrate serving sizes

If you have a food exchange book or list, you can use it to look up grams of carbohydrates for foods. Otherwise, read the product’s food label. If no food label is available, use the estimates on the next pages to calculate the carbohydrate grams for a food. Be aware that carbohydrate amounts can vary greatly between different types of the same food. For example, some breads are 15 grams a slice while others are closer to 25 grams.

Starch Group – 1 serving equals 15 grams of carbohydrates or 1 carb choice

Choose whole grains over refined grains.

1 serving =

- 1 (1 ounce) slice of bread
- 1 (1 ounce) small roll
- ¼ (1 ounce) bagel
- ½ hamburger bun or English muffin
- 1, 6-inch tortilla
- ⅓ cup cooked rice, pasta, barley, quinoa, or couscous
- ½ cup cooked bulgur wheat, lentils, or legumes (dried beans or peas)



- ½ cup corn, sweet potato, or green peas
- 3 ounce baked sweet or white potato with skin
- ½ cup cooked cereal
- ¾ cup unsweetened dry cereal
- ¾ ounce pretzels
- 3 cups hot air popped or microwave popcorn with no more than 3 grams of fat per serving

Fruit Group – 1 serving equals 15 grams of carbohydrates or 1 carb choice

Pregnant women should eat fruit every day.

1 serving =

- 1 cup fresh melons or berries
- ¾ cup fresh pineapple
- ½ cup fresh grapes
- 1 small fresh fruit, such as an apple the size of a baseball
- ½ of a large piece of fresh fruit, such as ½ of a large banana or large pear
- ½ cup canned fruit in juice
- 2 tablespoons of dried fruit
- 4 ounces of 100% fruit juice unsweetened



Milk Group – 1 serving equals 15 grams of carbohydrates or 1 carb choice

Pregnant women should drink milk or eat yogurt every day.

1 serving =

- 1 cup (8 ounces) fat free or low fat milk
- 1 cup (8 ounces) plain yogurt
- 6 ounces light or plain Greek yogurt



Sweets and Added Sugars

Limit the amount of sweets you eat. They are high in carbohydrates and often high in calories and fat. This includes limiting the amount of cake, ice cream, pie, syrup, cookies, candies, and doughnuts you eat. Try to avoid adding table sugar, honey, or other sweeteners to your foods or beverages. Limiting sweets will help to keep your blood sugar in a healthier range. Limit sugar to 6 teaspoons or about 100 calories per day (24 grams of sugar).

Fiber

A high fiber diet can help you have healthier blood sugar levels. Choose whole grains that are high in fiber as well as fruits, vegetables, beans, and lentils. Talk with your dietitian about how to increase fiber in your diet.

Foods that have little effect on blood sugar

Non-Starchy Vegetable Group – 1 serving equals 5 grams of carbohydrates

1 serving =

- 1 cup raw vegetables or salad greens
- ½ cup cooked vegetables
- ½ cup vegetable juice

These vegetables have little carbohydrates and little impact on your blood sugar. Examples of non-starchy vegetables include:

- Artichoke
- Asparagus
- Bean sprouts
- Beets
- Bok choy
- Broccoli
- Brussels sprouts
- Cabbage
- Carrots
- Cauliflower
- Celery
- Cucumber
- Green or yellow beans
- Salad greens
- Mushrooms
- Onions
- Peppers
- Radish
- Snow peas
- Sugar snap peas
- Tomatoes
- Turnips
- Yellow squash
- Zucchini



Meat and Meat Substitutes Group

Avoid meats that are high in saturated fat, such as bacon and sausage.

1 serving =

- 1 egg, 2 egg whites, or ¼ cup egg substitute
- 1 ounce turkey breast or chicken breast, skin removed
- 1 ounce lean deli meat (with 3 grams or less of fat per ounce) – heat to steaming hot
- 1 ounce fish fillet
- 1 ounce shellfish
- 1 ounce canned tuna in water
- 1 ounce lean beef, lamb, or pork (limit to 1 to 2 times per week)
- 1 ounce cheese
- ¼ cup nonfat or low fat cottage cheese
- ½ cup cooked beans or lentils – count as 1 serving of starch (carbs) and 1 serving of meat (protein)
- 4 ounces tofu
- 2 tablespoons natural peanut butter
- 2 tablespoons seeds
- 1 ounce nuts



Fats

Limit fried foods in your diet. Try to bake or broil your foods more often.

Moderate fat intake during pregnancy is ideal. Do not follow a very low fat diet. If you have questions about the fat in your diet, talk to your dietitian or nurse.

1 serving (5 grams of fat) =

- 1 teaspoon oil (vegetable, corn, canola, olive, etc.)
- 1 teaspoon butter or margarine
- 1 teaspoon mayonnaise
- 1 tablespoon salad dressing
- 1 tablespoon cream cheese
- 2 tablespoons avocado
- 8 to 10 large olives
- 1 slice bacon



My meal plan

- Your goal for carbohydrates is based on your calorie needs during pregnancy. Your dietitian or nurse will let you know how many calories you should eat each day. Many of your calories, 35 to 40 percent, will come from carbohydrates.

Calorie level	Carbs in grams
1,700	170 to 190
1,900	175 to 190
2,100	185 to 210
2,300	200 to 230
2,500	220 to 250

- When managing your blood sugar, both the type and amount of carbohydrates you eat matters.
 - **Choose complex carbohydrates**, which are higher in fiber, vitamins, and minerals, and often have a lower blood sugar response. These foods include 100% whole grains (brown or wild rice, old-fashioned oats, barley, farro, quinoa), beans, lentils, whole fruits, whole wheat bread and pasta, as well as starchy vegetables like corn, green peas, and sweet potatoes.
 - **Limit refined carbohydrates.** Eating too much processed breakfast cereal, fruit juice, soda, and refined grain products can lead to higher blood sugar levels.
- It is also important to spread out your carbs throughout the day rather than eating a large amount at one time.
 - **Eat a small meal or snack every 3 to 4 hours** to improve your blood sugar levels after meals and snacks.
 - For an even better blood sugar response after meals and snacks, **eat at least 1 serving of carbohydrates** from the Starch, Fruit, or Milk groups **with 1 serving of protein** from the Meat and Meat Substitutes Group.
- To keep your fasting blood sugars well controlled, **eat a bedtime snack 8 to 10 hours before the next breakfast.** The snack should contain both a carbohydrate and a protein to keep blood sugar levels stable overnight.

- Your meal plan should include a moderate amount of carbohydrates and a variety of foods from each food group: Non-Starchy Vegetables, Meat and Meat Substitutes, Fat, Starch, Fruit, and Milk.
 - Meals should include 2 to 4 servings or 30 to 60 grams of carbohydrates per meal.
 - Snacks should include 1 to 2 servings or 15 to 30 grams of carbohydrates per snack.
- A sample menu is provided below to help you get started. If you need help creating a meal plan, please speak with your dietitian or nurse.

Sample menu

This sample menu provides 45 grams of carbohydrates per meal and 15 grams of carbohydrates per snack.

Breakfast				
1 whole wheat waffle	or	1 slice of toast	=	15 grams
1 cup low fat milk	or	1 tablespoon jelly	=	15 grams
½ large banana	or	1 small orange	=	15 grams
2 tablespoons natural peanut butter	or	1 hard boiled egg	=	0
Snack				
1 small apple	or	1 cup strawberries	=	15 grams
2 tablespoons natural peanut butter	or	1 boiled egg	=	0
Lunch				
3 ounces tuna fish	or	2 tablespoons natural peanut butter	=	0
½ bagel (2 ounces)	or	2 slices of bread	=	30 grams
1 tablespoon light mayonnaise	or	2 tablespoons hummus	=	0
½ cup cooked broccoli	or	1 cup celery sticks	=	0
½ cup fruit cocktail	or	¾ cup blueberries	=	15 grams
Snack				
5 to 6 whole wheat crackers	or	½ cup peaches	=	15 grams
1 ounce cheese	or	½ cup low fat cottage cheese	=	0
Dinner				
1 medium baked potato (6 ounces)	or	2 small dinner rolls	=	30 grams
3 ounces grilled chicken	or	3 ounces steak	=	0
1 tablespoon fat free sour cream	or	1 tablespoon salad dressing	=	0
½ cup California mixed vegetables (broccoli and carrots)	or	1 cup salad	=	0
1 cup strawberries	or	1 cup low fat milk	=	15 grams
Snack				
1 cup sugar snap peas	or	½ cup grapes	=	15 grams
⅓ cup hummus	or	1 ounce cheese	=	0
Total grams of carbohydrates for day			=	180 grams

Healthy Meals for Healthy Blood Sugar



The Plate Method

The Plate Method is a simple way to keep carbohydrates to a moderate amount to improve blood sugar levels.

Calories come from carbohydrates, protein, or fat. Carbohydrates have the largest and quickest effect on blood sugar. Carbohydrate foods include:

- Whole grains
- Starchy vegetables
- Fruit
- Milk and yogurt

Sugar is a concentrated form of carbohydrates. **Limit foods high in sugar** in your diet.

Follow these steps to eat meals with the Plate Method

1. Divide a 9-inch plate into 3 equal parts. Fill the first part of the plate with non-starchy vegetables.

Non-starchy vegetables:

- Give your body some carbohydrates, but much less than the high carbohydrate food groups.
- Help fill you up without having a large effect on your blood sugar.
- Provide the fiber, vitamins, and minerals your body needs to function well.
- Examples include:
 - Artichoke
 - Asparagus
 - Bean sprouts
 - Beets
 - Bok choy
 - Broccoli
 - Brussels sprouts
 - Cabbage
 - Carrots
 - Cauliflower
 - Celery
 - Cucumber
 - Green or yellow beans
 - Salad greens
 - Mushrooms
 - Onions
 - Peppers
 - Radish
 - Snow peas
 - Sugar snap peas
 - Tomatoes
 - Turnips
 - Yellow squash
 - Zucchini
- Choose fresh or frozen vegetables that have no or little added salt, sugar, or fat in a variety of colors to get a variety of vitamins and minerals.

2. Fill the second part of the plate with carbohydrates, like whole grains, starchy vegetables, fruit, milk, or yogurt. Choose 2 to 4 servings per meal.

1 serving (15 grams) =

Bread – 1 slice

Tortilla – 1 small

Crackers – 6 small

Apple, pear, orange – 1 small

Banana – ½ large or 1 small (6-inch)

Grapes or cherries – 17 small or ½ cup

Graham crackers – 3 squares

⅓ cup:

- Cooked pasta
- Baked beans
- Cooked rice or quinoa

½ cup:

- Cooked cereal, like oatmeal
- Cooked beans or lentils – count as 1 serving of carbs and 1 serving of protein
- Starchy vegetables – potatoes, corn, or peas
- Canned fruit in water or juice
- Orange or apple juice
- Casserole

¾ cup:

- Unsweetened dry cereal
- Fresh fruit salad
- Greek yogurt without sugar

1 cup:

- Berries or melon
- Low fat milk
- Soup

3. Fill the third part of the plate with protein foods. Choose 3 to 4 servings per meal.

1 serving =

- 1 egg, 2 egg whites, or ¼ cup egg substitute
- 1 ounce turkey breast or chicken breast, skin removed
- 1 ounce lean deli meat (with 3 grams or less of fat per ounce) – heat to steaming hot
- 1 ounce fish fillet, shellfish, or canned tuna in water
- 1 ounce lean beef, lamb, or pork (limit to 1 to 2 times per week)
- 1 ounce cheese
- ¼ cup nonfat or low fat cottage cheese
- ½ cup cooked beans or lentils – count as 1 serving of carbs and 1 serving of protein
- 4 ounces tofu
- 2 tablespoons natural peanut butter
- ¼ nuts or seeds

4. Keep added fats to small amounts.

Fats improve the taste of many foods, help us feel full longer, and provide essential nutrients. All fats are high in calories, so keep portions small:

- 1 to 2 teaspoons of oil, margarine, butter, or mayonnaise
- 1 tablespoon of salad dressing
- 1 to 2 tablespoons of avocado

5. Drink mostly water with meals and snacks.

Aim for at least 8, 8-ounce, glasses of water each day. Water:

- Is calorie free and has no carbohydrates.
- Is essential for your body's cells, tissues, and organs.

Plain coffee and tea are also calorie free and often will not raise your blood sugar. But during pregnancy, it is recommended to limit caffeine from regular coffee, caffeinated tea, soda, and energy drinks to no more than 200 milligrams (mg) or 1, 12-ounce cup per day.

General tips

- Cook at home as much as possible, using low fat cooking methods, such as bake, broil, microwave, roast, steam, sauté, or grill. Restaurant foods and processed foods often have added sugar and more sodium.
- Choose fresh fruit or yogurt for dessert or try a low carbohydrate dessert recipe.
- Eat breakfast daily. Space your meals and snacks about 3 to 4 hours apart. Do not skip meals.
- Read food labels and ingredient lists on packaged foods. Avoid foods that have trans fats and partially hydrogenated oils.
- Follow these food safety tips during pregnancy:
 - Avoid raw or uncooked meat, poultry, eggs, and fish.
 - Avoid hot dogs and deli meats (unless heated until steaming hot).
 - Avoid raw or unpasteurized milk, and cheese and dairy products made with unpasteurized milk.
 - Avoid soft cheese, such as Brie and Camembert.
 - Avoid moldy blue cheeses, such as Gorgonzola.
 - Wash all produce well before eating or cooking.

Healthy Snacks for Healthy Blood Sugar

Snacking can be a part of a healthy diet, ensuring your body gets the energy it needs every 3 to 4 hours. This helps to control your appetite. It also helps manage your blood sugars. A snack, as opposed to a treat, is a “mini meal” meant to provide nutrients your body needs. Snacks that combine carbohydrates with fiber and protein and that are low in sugar are better at managing blood sugar and appetite. These snacks can be healthy choices for everyone regardless if they have blood sugar problems.



Create a healthy snack

Choose one food item from the carbohydrate (carb) list and one food item from the protein list to create a healthy, balanced snack, such as 1 cup non-starchy vegetables (carb) and $\frac{1}{3}$ cup hummus (protein).

Carb

- 1 small apple
- $\frac{1}{2}$ large banana or pear
- $\frac{3}{4}$ cup blueberries
- $\frac{1}{2}$ cup fruit, such as grapes, pineapple, or peaches
- 2 tablespoons raisins
- 1 cup non-starchy vegetables such as carrots, cucumber, sugar snap peas, and bell pepper strips
- $\frac{1}{2}$ cup cooked oatmeal
- 5 to 6 whole wheat crackers
- 3 (2½ inch) graham crackers
- $\frac{1}{2}$ whole wheat pita
- 1 slice whole wheat toast
- $\frac{1}{2}$ whole wheat toasted English muffin
- 1-2 rice cakes
- 3 cups popcorn with less than 3 grams of fat per serving

Protein

- 1 tablespoon natural peanut butter or other nut butter
- $\frac{1}{2}$ cup tuna, chicken, or egg salad made with light mayonnaise
- 1 hard-boiled egg
- 1 scrambled egg
- $\frac{1}{4}$ cup nuts, such as walnuts and almonds
- 1 ounce cheese
- $\frac{1}{2}$ cup low fat cottage cheese
- 6 ounces plain or light yogurt
- $\frac{1}{3}$ cup hummus
- 2 to 3 slices of low-fat lunch meat
- 1 ounce jerky
- $\frac{1}{2}$ cup roasted chickpeas
- 1 ounce of seeds, such as sunflower and pumpkin

Snack ideas with 1 carb serving (about 15 grams of carbohydrates) and 1 protein serving

- 1 small apple slices topped with 1 tablespoon natural peanut butter
- ½ cup tuna, chicken, or egg salad made with light mayonnaise in ½ of a 100% whole wheat pita
- ½ large banana with a hard boiled egg
- ½ cup cooked oatmeal with ¼ cup chopped nuts
- 5 to 6 whole wheat crackers with 1 ounce cheese
- 1 cup non-starchy vegetables (carrots, cucumber, sugar snap peas, bell pepper strips) and ⅓ cup hummus
- 2 tablespoons raisins and ¼ cup roasted unsalted almonds
- ½ cup low fat cottage cheese and ½ cup fruit, such as pineapple or peaches
- ¾ cup blueberries and ¼ cup walnuts
- Celery topped with 1 tablespoon natural peanut butter and 2 tablespoons raisins
- 1 slice 100% whole wheat toast with 1 scrambled egg and ½ teaspoon butter
- ½ cup grapes and 1 ounce cheese
- ½ whole wheat toasted English muffin, topped with 1 tablespoon cashew butter
- 3 cups popcorn with less than 3 grams of fat per serving and 1 ounce cheese



Standard portions

When you are away from home and do not have measuring cups and spoons handy, it helps to know what a standard portion looks like. The table below gives examples of common serving sizes and everyday items they are equal to.

Serving Size	Similar Sized Item
1 teaspoon	Small marble or tip of thumb
1 tablespoon	Large marble, poker chip, or thumb to first knuckle
2 tablespoons	2 large marbles, 1 ping pong ball, or whole thumb
¼ cup	Golf ball or cupped handful
½ cup	Tennis ball, hockey puck, deck of cards, bar of soap, checkbook, computer mouse, or palm of hand
1 cup	Wiffle ball, baseball, or a woman's fist
1 ounce	4 dice or 2 dominoes



1 teaspoon



1 tablespoon



2 tablespoons



¼ cup



½ cup



1 cup



1 ounce

Diabetes and Exercise

Exercise is key to managing your diabetes.

Getting started

Talk to your health care provider about the type of exercise and activities safe for pregnancy. Most women can continue to exercise during pregnancy and get the health benefits of low to moderate routines.

For your safety, follow suggested limits and stop exercising right away if you feel pain or pressure in your chest, neck, or jaw; feel dizzy or light headed; have irregular heartbeats; or become too tired.



Benefits of consistent exercise

- May reduce need for diabetes medicines.
- Improves blood sugar levels.
- Improves your body's ability to use its own insulin.
- Helps you feel better and have more energy.
- Lessens your risk of diabetes complications.
- May help lower lipid levels (cholesterol and triglycerides).

Testing your blood sugar

You should test and record your blood sugar levels both before and after exercise to understand the effect. This is particularly important any time you start or increase your exercise routine. For some people with diabetes, especially those taking insulin, **there may be a risk of hypoglycemia or low blood sugar with exercise.** The amount or type of insulin may need to be adjusted or a carbohydrate snack may be used to increase blood sugar.

Your exercise plan

- **Begin slowly and increase the time you exercise and the intensity of the exercise over time.**
- The type of exercise you choose depends on what you like and what is comfortable for you.
 - **If you do not exercise regularly,** talk with your provider about adding low impact exercise, such as stretches and exercises to your daily routine. Walking, swimming, bicycling, and aerobics are good choices for exercise. Start slowly, such as walking for 10 minutes a day. Add a few minutes to your walk each week until you are able to walk for 30 minutes most days of the week.

- ▶ **If you exercise regularly**, ask your provider how to modify your activity level as your body changes with pregnancy.
- ▶ **If your provider orders bed rest**, talk about exercises you can do in bed during pregnancy.
- Many of the changes that take place in your body during pregnancy are there for 4 to 6 weeks after delivery. Return to your pre-pregnancy exercise routine slowly, based on your overall recovery.

To get the best results:

- **Exercise at least 30 minutes on most days of the week.** Exercise helps to keep your blood sugar in a healthy range, reduce the discomforts of pregnancy, improve sleep, lower stress, and keep your body strong for labor and delivery.
- **Include a warm up and a cool down period with your exercise.** This helps prevent injury and allows your body to adjust to your activity. It is also a good idea to stretch your muscles after you cool down. This helps with flexibility and helps to reduce injury.
- Work up to a level of exercise that is comfortable for you. If you can exercise every day, you will see better balance in your blood sugar.

Special precautions during pregnancy

- **Avoid exercising flat on your back after the first 12 weeks of pregnancy.**
- Avoid standing for long periods of time.
- Stop exercising when you are tired. Do not exercise until you feel exhausted.
- Avoid any type of exercise in which there is a higher risk of falling or trauma to the abdomen.
- Changes that occur in your body shape and size over your pregnancy will limit the types of exercise you can do safely as your balance changes.
- Drink plenty of water and add 300 calories a day to your diet to take care of your baby.
- **Stop exercising if you have:**
 - ▶ Dizziness
 - ▶ Headache
 - ▶ Chest pain
 - ▶ Calf pain or swelling
 - ▶ Abdominal pain
 - ▶ Blurred vision
 - ▶ Fluid leaking from vagina
 - ▶ Vaginal bleeding
 - ▶ Less fetal movement
 - ▶ Contractions

If any of these signs persist after stopping exercise, call your provider or seek medical help right away.

Fetal Movement Count

Your health care provider will tell you when to start checking for fetal movement, also called kick counts. It often begins with the 7th month of pregnancy. It involves counting the number of times your baby moves in 2 hours. Your baby naturally moves and then sleeps. When moving, your baby may feel like a kick, ripple, twist, or rolling in your abdomen. As your baby gets bigger, you may also feel stretching and pulling.

Do kick counts one or two times a day as instructed by your health care provider. After you eat a meal is often a good time.

How to do kick counts

1. Lay on your left or right side.
2. Use a clock, watch, or mobile phone and record the time. Set the timer for 2 hours.
3. Each time your baby moves make a mark on a chart or piece of paper.

What the kick counts mean

- **If your baby moves 10 times or more in two hours**, you may stop counting. Your baby is probably healthy and doing well.
- **If your baby moves less than 10 times in two hours**, call your provider or come to the Labor and Delivery Unit on the 6th floor of Doan Hall in University Hospital.

Date	Total Movement	Date	Total Movement
2/2			

Non-Stress Test in Pregnancy

A non-stress test (NST) checks the health of your baby by looking at your baby's heartbeat and movement during pregnancy. The test may be used when:

- Your baby is not moving as much as usual.
- You are near the end of pregnancy or past your due date.
- Your pregnancy is high risk.

About the test

NST is often given after 28 weeks of pregnancy when your baby is able to respond to the test.

- For a high risk pregnancy, the test may be given before 28 weeks.
- If you are admitted to the hospital during your pregnancy, the test may be given 1 to 2 times a day to check the health of your baby.
- There are no known risks or side effects to the baby or mother when having the test.
- The test may be repeated during pregnancy.

Having the test

Please empty your bladder before the test starts and find a comfortable position lying down. The test will take 20 to 60 minutes.

- A fetal monitor will be placed around your abdomen to check your baby's heart rate. You will push a button every time you feel your baby move.
- The nurse is looking to see that your baby's heartbeat increases as he or she moves. Just as your heartbeat increases with movement, your baby's heartbeat should also increase. The amount of change or increase in your baby's heartbeat will depend on its gestation (age in weeks).
- If your baby is not active during the test, you may be asked to move or the nurse will try to make your baby move using noise or touch. Your baby typically sleeps 20 minutes or more during every hour. The nurse may need to awaken the baby for the test.

Test results

Test results will be shared with your health care provider, who will share the results with you.

Follow-up Care After Delivery

It's important to be tested for diabetes after your baby is born. Women who have gestational diabetes are 7 times more likely to get type 2 diabetes later in life. **Talk to your health care provider about testing for diabetes 6 to 12 weeks after delivery.** Ask if you need to see an endocrinologist, a doctor who treats people with diabetes and other hormone imbalances, for evaluation.

Other healthy habits

- Eat a healthy diet.
- Exercise regularly.
- Talk about your plans for more children with your health care provider before your next pregnancy.
- Maintain a healthy weight. You should be back to your weight before you were pregnant within 6 to 12 months. If you have not reached your goal weight, work to lose 5 to 7 percent of your total body weight. For example, if you weight 200 pounds, aim for a weight loss of 10 to 14 pounds. Plan to lose weight slowly. This will help you keep it off.
- Get regular health checkups and have your blood sugar checked by your primary care doctor at least every 1 to 3 years.

Getting tested for diabetes, eating a healthy diet, exercising regularly, and maintaining a healthy weight can help you delay or prevent type 2 diabetes in the future.



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