

Gestational Diabetes



Gestational diabetes develops during pregnancy, which is also called your baby's "gestation period". This condition affects how your cells use sugar, or glucose. Gestational diabetes causes high blood sugar that can affect you, your pregnancy and your baby's health.

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Why Did This Happen?

Any woman can develop gestational diabetes. But certain women are at a greater risk to get this condition. Some of the possible reasons, or risk factors, for gestational diabetes are:

- Age greater than 25. Women older than age 25 are more likely to develop gestational diabetes.
- Family or personal health history. Your risk of developing gestational diabetes increases if:
 - » You have prediabetes — blood sugar that is slightly higher than normal on a regular basis, but it's not high enough to be called diabetes.
 - » A close relative related by blood, such as a parent or sibling, has diabetes.
 - » You had it during a previous pregnancy.
 - » You have already had a baby who weighed more than 9 pounds.
 - » You have had an unexplained stillbirth.
- Excess weight. You're more likely to develop gestational diabetes if:
 - » You're significantly overweight with a body mass index (BMI) of 30 or higher.
 - » You have gained an excessive amount of weight during this pregnancy.
- Race. For reasons that aren't clear, women who are African American, Hispanic, American Indian or Asian are more likely to develop gestational diabetes.

How You Can Help Yourself

You can help control your gestational diabetes by eating healthy foods, exercising and, if necessary, taking medication. When you control your blood sugar, it will help keep you and your baby healthy. Keeping your blood sugar in normal range may also help you have an easier birth.

What usually happens after the baby is born?

With gestational diabetes, blood sugar usually returns to normal soon after you have the baby. But if you've had gestational diabetes, you are at risk to develop diabetes. After the baby is born, you'll continue to work with your health care team to monitor and manage your blood sugar.

Keep This Material

This material explains gestational diabetes. It also explains what you need to do to help take care of yourself and your baby during the weeks or months ahead. Keep this material. You may want to read some sections of it a few times as you learn new ways to take care of yourself.

If you have questions after you read this, talk to a member of your obstetrics (OB) care team. They've worked with many women who have this condition.

What Causes Gestational Diabetes?

Researchers don't know why some women develop gestational diabetes. But they do know how it happens. Before that's explained, it may help to understand how pregnancy changes the way your body processes sugar.

When You Eat

As food moves along your digestive system (the path from your mouth to your colon), your body digests the food and makes sugar (glucose) out of it. The glucose enters your bloodstream. When your pancreas learns that there's glucose in the body, it produces a hormone called insulin. Insulin helps glucose move from your bloodstream into your body's cells. (This reduces the amount of glucose in the bloodstream.) When glucose gets to the cells, it's used as energy.

What Happens Differently During Pregnancy?

During pregnancy, the placenta connects your baby to your blood supply. The placenta also makes a few hormones — but not insulin. Almost all of the hormones made by the placenta slow the movement of insulin into your cells. The hormones do that so some of your glucose will pass to your baby, instead of to your own cells. By slowing the movement of glucose, the result is that more glucose is left in your blood — and your "blood sugar level" goes up. Having a little increase in your blood sugar level after you eat is normal, especially during pregnancy.

As your baby grows, however, the placenta makes more and more insulin-blocking hormones. Your blood sugar level goes up even higher. When the pancreas can't make enough insulin to keep your blood sugar within normal range, your high blood sugar can negatively affect your baby's health and growth.

Gestational diabetes is usually diagnosed during the last half of pregnancy. But it could happen as early as week 20.

No Known Signs To Watch For

For most women, gestational diabetes doesn't cause noticeable signs or symptoms. This is why screening for gestational diabetes is advised for all pregnant women.

What Could Happen As A Result Of Gestational Diabetes?

Most women who have gestational diabetes deliver healthy babies. However, gestational diabetes can lead to uncontrolled blood sugar levels. This could cause problems, or complications, for you and your baby.

Problems That May Affect Your Baby

When a mother has gestational diabetes, her baby may be at higher risk for the following conditions, among others.

- Excessive birth weight. Extra glucose in your bloodstream crosses the placenta, which triggers your baby's pancreas to make extra insulin. This can cause your baby to grow too large. (This condition is called "macrosomia.") Very large babies — those that weigh 9 pounds or more — are more likely to become wedged in the birth canal, have birth injuries or require a C-section birth.
- Increased amniotic fluid volume. When a baby's blood sugar is high before birth, the mother's body makes extra amniotic fluid. The extra fluid increases the size of the uterus. In turn, that leads to more uterine contractions and more discomfort for you. An enlarged uterus could also lead to pre-term labor or premature rupture of membranes.
- Respiratory distress syndrome. This condition makes breathing hard for the baby. Babies with this syndrome may need help breathing until their lungs mature and become stronger. This condition is more common in premature babies. But it can happen for babies born at full term too.
- Low blood sugar (hypoglycemia). Sometimes babies of mothers with gestational diabetes develop low blood sugar (hypoglycemia) shortly after birth because their own insulin production is high. Severe episodes of hypoglycemia may cause seizures in the baby. To return the baby's blood sugar level to normal, it is important to feed the baby on demand. For some babies, giving a glucose solution through a vein (intravenously) may be needed too.
- Diabetes later in life. Babies of mothers who have gestational diabetes have a higher risk of developing obesity and diabetes later in life.
- Early (preterm) birth. A mother's high blood sugar level may increase her risk of early labor, early rupture of the membranes and delivering her baby before its due date.

- Death. If gestational diabetes is not well managed, it could lead to your baby's death either before or shortly after birth. This does not happen often, but it is possible.

Problems That May Affect You

Gestational diabetes may also increase your risk for these conditions, among others:

- High blood pressure and preeclampsia. Gestational diabetes raises your risk of high blood pressure and preeclampsia. Preeclampsia is a serious condition that causes high blood pressure and other symptoms for the mother. These symptoms could have serious, life-threatening effects for you and your baby. (See also "Problems that may affect your baby.")
- Future diabetes. If you have gestational diabetes now, you are more likely to have it again during future pregnancies. You're also more likely to develop diabetes as you get older. However, if you make healthy lifestyle choices now, such as eating healthy foods and exercising, you can reduce your risk of diabetes. Of the women who reach their ideal body weight after delivery, fewer than 1 in 4 go on to develop diabetes.

In addition, gestational diabetes may require you to make a new plan for delivering your baby. If your baby is very large, your obstetrician may want to start your labor early or talk to you about the need for a C-section.



How To Take Good Care Of Yourself

You can improve your health and greatly reduce your intake of sugar by making a few simple changes.

Monitor Your Blood Sugar

Your health care team may ask you to check your blood sugar four to five times a day — first thing in the morning (when you are fasting) and two hours after each meal.

Your blood sugar goals are:

- When you wake up: Less than 95 milligrams per deciliter (mg/dL)
- Two hours after you eat a meal: Less than 120 mg/dL

These checks are done to make sure your level stays within a healthy range. You will be given a notebook to use. Write each level in a notebook along with the date and time of day. If the level is high, add notes about what you've eaten, any stress you've had and whether you have felt ill since your last blood sugar check. Be sure to bring this notebook every time you see your health care provider.



that are high in nutrition and fiber and low in saturated fat and calories. It also limits the amount of highly refined carbohydrates you eat, including sweets.

Each woman's diet needs are different. You may want to talk to a registered dietitian to create a meal plan based on your current weight, pregnancy weight-gain goals, blood sugar level, exercise habits, food preferences and budget. More ideas about how to eat and drink in a healthful way are shared in this material.

What If You Lose Weight?

Your care team really doesn't want you to lose weight during pregnancy. As long as you choose healthy foods and eat enough of them, losing a little bit of weight is not typically a big concern. Talk to your care team about your weight goal.

Exercise

Regular physical activity should be an important part of every woman's wellness plan before, during and after pregnancy. Exercise lowers your blood sugar by stimulating your body to move glucose into your cells.

Regular exercise also can help relieve some common discomforts of pregnancy. This includes back pain, muscle cramps, swelling, constipation and trouble sleeping.

Take Your Medication, If Prescribed

If diet and exercise aren't enough, you may need oral medication or insulin injections to lower your blood sugar. Many women with gestational diabetes need one of these medications to reach their blood sugar goals.

Monitor Your Baby

An important part of your care plan is to closely monitor your baby. You can keep track of your baby's movements daily after 28 weeks. Your health care team may monitor your baby's growth with ultrasounds or other tests.

Depending on how you are managing your diabetes and how much medication you may use, you may need to birth the baby earlier than usual.

It Can Happen

You will have worked really hard to manage your food choices and to exercise regularly. But despite your best efforts, you get an unexpected increase in your blood sugar. It happens. That is why it's so important for you to continue to monitor your progress. Just remember this: If you hadn't been doing a good job already, can you imagine how high your blood sugar level would have been? A lot higher, that's for sure.

As your pregnancy continues, it may be harder to control your blood sugar.

Your medical treatment may be updated as your pregnancy progresses.

If your blood sugar level is usually good and consistent, you're doing a great job. If you have a rare increase, don't get upset. And whatever you do, don't give up! Keep watching your food and drink intake and continue to exercise. You and your baby will feel a lot better for it.

What To Eat And Drink

To keep your blood sugar in a healthy range, watch your serving sizes and limit your intake of "carbs" (carbohydrates) every time you eat and drink. Carbohydrates are sugars and starches.

- Sugar is found in fruit, milk products and the usual sweet foods like cakes, pastries and candy. It's also in many foods with sauces, like Fettucine Alfredo, spaghetti, barbequed food and baked beans. It's in salad dressings, mayonnaise, ketchup and most condiments. It's in alcohol too. (Alcohol raises your baby's risk for many defects. Do not drink alcohol while you are pregnant or breastfeeding.)
- Starches are found in beans, grains and certain vegetables.

Sugary food and drinks raise your blood sugar more than any other food or drinks.

If limiting what you eat and drink is new for you

Your care team offers these tips to make it easier:

- Read food labels. These labels will help you keep track of the number of carbohydrate grams you eat and drink.
- Avoid foods and drinks that are high in carbohydrates.
- Plan your meals and snacks the day before.
- Follow your food plan! Set a reminder on your watch or smart phone so you eat on a regular schedule. If you miss a snack, don't eat more carbohydrates the next time you eat. This likely will raise your blood sugar too high.

Read Food Labels

Use the following food label information to help you decide whether you should consume a food or drink.

- **Serving size.** Serving size is the key to the rest of the information on the Nutrition Facts label. Nutrient information is based on one serving of that food. If you eat two servings of the food, you take in double the calories and fat and double the amount of nutrients, including carbohydrates.

- **Nutrients.** Food companies must list the amounts of fat, total fat, saturated fat, trans fat, cholesterol, sodium, total carbohydrate, dietary fiber, sugars, protein, vitamins A and C, calcium and iron that are in one serving. This can help you track what you are taking in daily.
- **Ingredient list.** On most labels is a list of the ingredients in that food or drink. The ingredient found in the largest quantity per serving is listed first; the ingredient with the smallest amount per serving is listed last.

Nutrition Facts

Serving size 1 oz.
Servings per container 5

Amount per serving

Calories 170 Calories from Fat 20

	% Daily Value*
Total Fat 1g	3%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0g	0%
Sodium 100g	4%
Total Carbohydrate 0g	0%
Dietary Fiber 0g	0%
Sugars 0g	0%
Protein 3g	
Vitamin A 0%	Vitamin C 10%
Calcium 5%	Iron 5%
Thiamin 2%	Niacin 0%
Vitamin B₆ 3%	Phosphorus 3%
Zinc 3%	

* % Daily Values are based on a 2,000 calorie diet. Your daily needs may be higher or lower depending on your caloric needs.

Check the serving size

Check the calories per serving

Limit these nutrients

Guide to recommended daily % values
Under 5% is low, over 20% is high

Get enough of these nutrients

Additional Notes

Make Good Food And Drink Choices

You need to eat a variety of food from each food group. Work with a registered dietitian to help you plan healthy meals and snacks that you (and your baby) will enjoy.

Food and drinks with carbohydrates* are:

- **Fruit.** Fruit has a lot of vitamins and fiber, which you need. It also has natural sugar. Choose fresh fruit as often as possible. Dried, canned and frozen fruit are okay if there is no added sugar. Avoid all fruit juices and fruit with added sugar. Some fresh fruit options are oranges, berries, apples, pears and bananas.
- **Milk And Yogurt.** These items are usually high in calcium, protein and natural dairy sugar. Choose non-fat (or low-fat) milk and yogurt without added sugar.
- **Whole Grains.** With these food, you get good vitamins and fiber, plus sugar. Choose whole wheat items, like bread, tortillas, pasta, brown rice and oatmeal. Avoid white items such as bread and rice. Also, think about what you usually put on your bread. Avoid jam, jelly and sugar/cinnamon.
- **Starch Vegetables And Legumes.** Sweet potatoes, winter squash, peas, corn, potatoes, yams and beans have a good variety of nutrients, including fiber and sugar. Avoid adding sugar and condiments when you prepare these foods.

* **Remember:** Food and drinks with carbohydrates can be enjoyed as part of a healthy meal plan.

If your glucose level goes above the recommended guideline after you eat:

- Watch the total amount of carbohydrates you take in.
- And choose foods that don't allow your glucose level to rise quickly. For example, the fiber in fruit delays its digestion — and therefore slows the increase in your glucose. Also, the protein in milk and yogurt delays its digestion and slows the increase in your glucose.

Food with low or no carbohydrates are:

- **Proteins.** Proteins are meat, poultry, fish, eggs, cheese and plant-based foods. The plant-based protein foods vary in how much carbohydrates they contain; be sure to read the label. Other protein foods generally do not contain carbohydrates, so they do not raise blood glucose levels. Ask your dietitian or health care provider which types of fish

you should eat while you are pregnant or breastfeeding. Avoid frying the meat, poultry and fish; bake or broil it. Other food has protein too, such as cheese, eggs, nuts and tofu.

- **Fats.** Unsaturated fat doesn't affect your blood sugar level. But it is high in calories, and excess calories can make you gain unhealthy weight. Any unnecessary weight you have may make it harder for you to manage your blood sugar. When you have to use oil in a recipe, choose vegetable oils, such as canola, olive, safflower, sunflower and peanut oil. Other good fats to consider are nuts, seeds, avocados and olives.
- **Vegetables.** "Veggies" offer a lot of vitamins and fiber, and most of them have very little sugar. Fresh vegetables are best. If you need to eat frozen or canned vegetables, read the food label and choose a brand that is low in sugar, fat and salt (sodium). Good choices include broccoli, spinach, kale, cauliflower and eggplant. Remember to watch the portion size of the starchy vegetables and legumes (sweet potatoes, winter squash, peas, corn, potatoes, yams and beans).



For You And The Baby

Your body uses blood sugar when you exercise. So exercise is a great way to help keep your blood sugar in normal range.

- Ask your health care provider how much exercise is right for you.
- If it's been more than two hours since you last ate, eat a light snack before you exercise.

Choose Your Exercise Carefully

While you are pregnant, you need to be careful about what kind of exercise you do. You may want to avoid jumping, twisting your body and starting and stopping quickly.

Some good options are:

- Low-impact aerobic activities, such as walking, hiking and biking.
 - » Be sure you wear the right type of shoes. You don't want to risk losing your balance.
 - » Choose an exercise or walking path that's interesting for you.
 - » Ask a friend to workout with you. You should be able to talk while you exercise. If you can't, you're exercising too hard.
- Swimming and water aerobics.
- Yoga.
- Everyday activities such as housework and gardening.

With your care team's agreement, aim for moderately active exercise most days of the week. If you haven't been active for a while, start slowly and build up slowly to a vigorous schedule.

Other Healthy Exercise Tips

- Exercise at least 30 minutes every day. If needed, break your time into segments. For example, go for two, 15-minute walks per day.
- Schedule your exercise. Check your diabetes treatment and ask a member of your care team what kind of exercise you should do, when and how often you should do it.
- Drink a lot of water while you exercise. Muscles need water to work well.
- If you use insulin:
 - » Keep a carbohydrate snack with you while you exercise.
 - » Don't exercise when your insulin is peaking.

WHEN TO GET HELP

If you are taking insulin

Insulin causes your blood sugar level to drop. Usually, this helps keep your blood sugar in a good range. But it also puts you at risk for having blood sugar that is too low. Symptoms of low blood sugar are:

- Dizziness.
- Weakness.
- Shakiness.
- Confusion.

If You Have Any Of Those Symptoms:

- Check your blood sugar right away.
- If it's low, eat 15 grams of sugar that can get into your bloodstream quickly. Examples include four glucose tablets or one tablespoon of honey, syrup or sugar. Or you may drink a ½ cup of juice.
- Re-check your blood sugar 15 minutes later. If it's still low, eat or drink a fast-acting sugar product again.
- If your blood sugar level doesn't reach your goal range in 30 minutes, call your health care provider.



Call A Member Of Your Health Care Team If:

- Your blood sugar levels are above goal range 30 percent of the time.
- You see a pattern of high blood sugar levels.
- You have any questions after you read this material.

Call A Member Of Your OB Health Care Team Right Away If:

You have any new symptoms. Examples include:

- Bleeding or leaking fluid from your vagina.
- Headache that is unusual for you — stronger or different than your usual headaches.
- Less movement from the baby.

Your Blood Sugar Goals

Many women use an alarm on their mobile phone to remind them when to test their blood sugar. The usual goals are:

- When you wake up: Less than 95 milligrams per deciliter (mg/dL)
- Two hours after you eat a meal: Less than 120 mg/dL



This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment. New medical research may change this information. If you have questions about a medical condition, always talk with your health care provider.

Source: Mayo Clinic



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PMC Clinic Building, 2nd Floor, 911 Bypass Rd., Pikeville, KY 41501
606-430-8120 | www.pmcky.org/diabetes-education/