



DIABETES DURING PREGNANCY

INTRODUCTION

When I first learned I had diabetes I was very scared. I didn't know what to do; I didn't know where to turn. I always expected diabetes, but not with the pregnancy.

It took me a long time to kind of get used to even the fact that I have diabetes. I wanted to you know, call up and get them to do the test again.

I was a little concerned and worried about eating, about taking care of myself, because I'm a big junk food eater.

I was afraid because I didn't know whether there was – whether I would be able to control it and whether there was enough information out there and enough people out there to support me.

So I started eating better, going to the grocery store. I started cooking more, instead of going out.

This is do-able. You can do this. It's a little bit of a life adjustment but it's not hard, as I keep saying it's doable.

So there is absolutely no reason to be afraid.

Hello and welcome. The women you just saw at the beginning of this program were each diagnosed with Gestational Diabetes, and as you heard, initially they had a lot of questions and concerns. That's perfectly natural. You'll hear more of their stories throughout this program. You'll see that with education and support from their health care providers, they were able to make lifestyle changes for a healthy pregnancy and a healthy baby. You can do the same. We're here today because you've recently been told that you have high blood sugar during your pregnancy, Gestational Diabetes, Impaired Glucose Tolerance or glucose intolerance. This program is all about helping you make healthy changes in the way you eat and helping you find ways to get in some regular exercise. We'll also discuss what you need to know to keep a healthy lifestyle after your baby is born. We'll spend a lot of time in the kitchen, because what you eat, and how you prepare your food is a very important part of keeping your blood sugar normal to have a healthy pregnancy. As one of the women said earlier, "this is do-able."

WHAT IS GESTATIONAL DIABETES?

Let's start with some background. Gestational Diabetes is a temporary type of diabetes and is one of the most common health problems for pregnant women. Glucose Intolerance is an early stage of the condition. Gestational Diabetes is not your fault. It's caused by the way the hormones in pregnancy affects you. It occurs in about 5 to 7 percent of all pregnancies, so you're not alone.

During pregnancy, an organ called the placenta develops in the uterus. The placenta connects the mother and baby and makes sure the baby has enough food and water. The placenta also makes

several hormones. Some of these hormones make it hard for insulin to do its job, controlling blood sugar, also known as blood glucose. Insulin opens your cells so that glucose can get in. During your pregnancy, your body has to make about three times its normal amount of insulin. Gestational diabetes develops when the organ that makes insulin, the pancreas, can't make enough insulin for pregnancy. Without enough insulin, your blood sugar can't leave the blood and be changed to energy. This causes extra sugar to build up in the blood.

Most women with Gestational Diabetes will have a healthy baby. If you keep your blood sugar level in a safe range, the chances of you or your baby having problems are the same as if you didn't have Gestational Diabetes. But if left untreated, Gestational Diabetes can cause health problems for you and your baby. That's why it's so important to work with your health care providers to keep your blood sugar within a safe range. One important way to do that is by following a healthy meal plan.

YOUR MEAL PLAN

The biggest concern when I said, you know when I found out that I would have to follow a meal plan is that I'm going to be hungry. And I was never hungry.

The most successful thing I discovered was eating more often, smaller meals more often instead of having like a big meal at breakfast lunch or dinner.

I planned the night before to ensure what I was going to have the next day, to look forward to what I was going to have the next day.

The biggest relief I had was that I didn't have to change any of my Indian diet. I kept almost all of my Indian meals intact.

It's not a difficult thing to do once you see that there are so many options and different things you can eat. Life just goes back to normal.

Many women who make changes in the way they eat, and how often they exercise are able to keep their blood sugar levels within a healthy range. Some women with gestational diabetes will also need insulin or other medications to help them control their blood sugar. As you start making these changes you'll learn more about your body -- and how it reacts to food and exercise. You may also notice that you feel better and have more energy. Your first step is understanding how what you eat affects your blood sugar. A blood glucose meter can help you track your blood sugar levels, so you know exactly how you're doing. A diabetes educator will show you how to use one. You may have already met with a registered dietitian, a nutrition expert, or you'll be meeting with one soon. Together, you'll develop a healthy meal plan with enough calories and nutrients for you and your baby. You may need to write down what you eat, to better understand how your body reacts to certain foods.

Elaine Lee is a Registered Dietitian with Kaiser Permanente. She works with hundreds of women each year who have Gestational Diabetes, helping them to keep their blood sugar under control.

Where should we start?

The first thing I tell my clients is that we'll be working together to develop a meal plan that fits your lifestyle, something that you can stick with. Let's start by talking about timing. Women with Gestational Diabetes need to establish good daily eating habits with regular meal and snack times. Three meals and three snacks throughout the day should be included. Try not to go more than 2-3 hours without food during waking hours. If you go too long without food, you'll likely overeat at the next meal, which could cause a significant increase in blood sugar. It's important to spread the amount of food you eat throughout the day. So don't eat a small lunch, so that you can have a big dinner. The time between bedtime snack and breakfast shouldn't be more than 8 to 10 hours

What do we need to know about how food affects your blood sugar?

The food you eat will impact your blood sugar levels. Carbohydrates are nutrients that our body changes into sugar or glucose for energy. They raise your blood sugar more than other foods, so it's important to control your portions of carbohydrates.

You brought some different foods with you today, tell us more about carbohydrates.

Carbohydrates are nutrients mainly found in the starch group, fruit group and milk group. Examples of starch include bread, rice, chapatti, pasta, tortillas, hot cereal, crackers and starchy vegetables such as potatoes, corn, peas, dried beans and lentils. Milk, yogurt and fruit also contain carbohydrate. Of course such foods as baked goods, sweets, and candy contain carbohydrate too. Non-starchy vegetables such as lettuce, tomatoes, broccoli, and peppers contain mostly water and fiber, so they have a minimal effect on blood sugar. Try to eat different colored vegetables (green, red, yellow and orange) to get a variety of vitamins and minerals.

What about eating protein?

Protein has less effect on blood sugar. Good sources of protein include: poultry, fish, lean beef or pork, cheese, paneer and eggs. Do not eat raw meat and raw fish because it could harm your baby. Vegetable proteins include: tofu, dried beans and lentils also contain carbohydrates, so you'll count them as both starch and protein.

What about fat from meat, butter or oils?

Like protein, fat has only a minimal effect on blood sugar. But it's important to go light on fat as gaining too much weight can make it more difficult to control blood sugar, so keep away from excess fat, such as fried foods and fatty meats.

Are there any foods to steer clear of?

You'll be able to control your blood sugar better if you avoid all fruit juices and regular sodas, refined sugars such as honey, sugar, molasses and corn sweeteners, plus desserts such as cakes, cookies, candies and pastries. All these items may raise your blood sugar too high, and provide little nutrition. You can work with your dietitian to figure out how to fit in desserts or other special foods into your meal plan every once in a while, but make sure to check the carbohydrate content and portion size.

You can drink diet soda or other drinks with artificial sweeteners. It's safe to use artificial sweeteners such as Equal, NutraSweet, or Splenda.

PUTTING YOUR MEAL PLAN TOGETHER

So you've talked about a lot of different types of food and we know we have to be careful with carbohydrates.

Does that mean steer clear of carbohydrates completely?

No, it's important to have a well-balanced diet, especially during pregnancy and it's essential to have carbohydrates in your meal plan. But you need to control your portions of carbohydrates in each meal and snack in order to help control your blood sugar. Spread the carbohydrates you eat throughout the day, to help prevent spikes in your blood sugar. At first, limit yourself to 2 -3 portions of carbohydrates per meal. Remember a portion has about 15 grams of carbohydrate. Also remember to measure foods to make sure you've got the right portion size. We'll talk more about that in a minute.

Do milk and fruit contain too much carbohydrate?

Milk and fruit do have carbohydrates, so be careful of your portion sizes. They also have valuable nutrients that you need during pregnancy. Milk and yogurt provide calcium, which is very important in pregnancy. You should eat plain or light yogurts because they have much fewer carbohydrates than sweetened yogurt. Fruits have fiber, vitamins, and minerals that are nutritious for you.

Since many people are more sensitive to carbohydrate and sugar in the morning, your meal plan may not include fruit, milk, yogurt and cold cereal at breakfast. These foods change into sugar quickly and could raise your blood sugar too high. Your best choices for breakfast would be complex carbohydrates such as whole grain bread or a corn tortilla. These foods take longer to break down. It's important to combine those carbohydrate choices with protein. Proteins are digested slowly, that will help stabilize your blood sugar and make you feel full. So a good example of breakfast might be two slices of whole grain bread, one tablespoon of peanut butter, and a cup of tea. A typical snack might be five wheat crackers, one apple, and one ounce of string cheese. And here's an example of what you might eat for lunch or dinner on the meal plan. We've got two corn tortillas, two ounces of chicken, one ounce of cheese, lettuce, tomato, avocado and one cup of milk.

PORTION SIZES

Let's talk about portion sizes. Because you'll need to be careful about how much carbohydrate you eat, we can start with carbohydrate portions.

Carbohydrates include starch, fruit, milk and yogurt. Each starch, fruit, milk or yogurt portion on your plan is equal to about 15 grams of carbohydrate.

How would you measure that?

We've got that all figured out for you. One starch portion equals ½ cup of starchy vegetables such as corn or cooked cereal such as oatmeal. A portion of cooked rice or noodles would be 1/3 of a cup. For bread, one portion is an ounce or one slice of bread, or one six inch tortilla. It sounds like a lot of information, but your dietitian will work with you. You'll learn how to

measure foods and read food labels. Your dietitian will give you your meal plan in writing and share other resources with you, which will help you feel more confident in choosing foods.

And once you start paying attention to portion sizes, and doing some measuring, you'll find that after a while you can eyeball the correct portion size.

Let's see some more.

How do we know what a portion of fruit is?

When we're talking about one portion of fruit, we mean a small piece of fresh fruit, like this apple, which is the size of a tennis ball, or your fist. One cup of cut fruit such as cantaloupe is equal to one portion. If you eat canned fruit, it should be unsweetened and the portion size is one-half cup. The amount for one portion of dried fruit is a quarter cup.

One portion from the milk group is eight ounces of milk or six ounces of yogurt. Non-starchy vegetables contain fiber and a small amount of carbohydrate. You don't need to measure these. Just be sure you get enough. You need at least three portions per day. One portion equals a half cup of cooked vegetables, such as these bell peppers or one cup raw vegetables.

Okay, how much protein?

At meals include two to three ounces of animal protein, which is about the size of this deck of cards, or one cup of vegetable protein. Remember that dried beans and lentils also count as a portion of starch. You'll include one ounce of protein at snacks to help satisfy your appetite.

What about fish?

In general, fish is a part of a healthy diet during pregnancy. However, the current recommendation is not to eat swordfish, shark, king mackerel or tilefish, they contain dangerous levels of mercury that could be harmful to your baby. You should also limit the amount of tuna you eat. It's a good idea to talk with your dietitian about which types of seafood are safe to eat.

And fats?

At meals include one to two portions of fat. One portion of fat is one teaspoon of butter, margarine or oil; one tablespoon of regular salad dressing or cream cheese, or six almonds or ten peanuts.

So, let's put this all together. Here's the typical lunch we showed you earlier. The two corn tortillas are from the starch group and the cup of milk is from the milk group. So all together there are three carbohydrate portions here. The lettuce and tomato are your non-starchy vegetables. The chicken and cheese provide your protein. The avocado is your fat. If you're away from your own kitchen, and can't measure your portions, imagine dividing your plate into three sections; one half of the plate should be filled with vegetables, the other half should be split between starch and protein. You would also add in 1 cup of milk or 1 small fruit. If you want to make a vegetarian meal, instead of having the meat, you could have one cup of soy protein such as tofu. Feel free to use herbs and spices to season your food.

FOOD LABELS AND MORE

A lot of packaged foods have nutrition labels. Give us a quick lesson on what to look for.

When you look at a nutrition label, like on this box of crackers, you want to check the servicing size to make sure it's the amount you plan to eat. In this case the number of crackers. Now check the grams of total carbohydrate, and make sure that fits into your meal plan. Focus on the total carbohydrate number. That number includes the amount of sugar in the food. Remember 15 grams of carbohydrate is equal to one portion of starch. Now read the ingredient list, because sugar can be called many different names. Stay away from foods that have these names listed in the first four ingredients: those ending in -ose, such as sucrose and fructose, also corn syrup, and natural sugars such as honey, molasses and brown or raw sugar.

Any other tips for buying or selecting which foods to eat?

When choosing from the starch group, choose high fiber foods such as whole wheat tortillas, brown rice, whole grain breads, old-fashioned oatmeal and whole wheat pasta. High fiber foods are filling and typically have more nutrients. They also take longer to break down, which can reduce the rate at which your blood sugar rises. Eating foods that have carbohydrate is important to ensure you have enough energy each day, just be careful of the portions.

You need to limit the amount of fruit you eat to two to three portions a day. Fruit has good nutrients, but eating too much at once could raise your blood sugar too high.

What about suggestions for what to drink?

To stay well hydrated, it's important to drink about eight cups of fluid a day. This can include water, soup, non-caffeinated diet drinks and milk. Drinking too much milk at one time can raise your blood sugar too much. Make sure you drink no more than one eight ounce cup at a time. Drink-wise, it's important to stay away from alcohol while you're pregnant. Drink only a moderate amount of caffeinated drinks, such as coffee and tea.

Any final thoughts?

It's really important that you don't skip meals or snacks. A lot of women find it easiest to plan their meals and snacks the night before. And if you're on the go, bring a cooler and ice with you so your food won't spoil on the road. Following a new meal plan can seem difficult at first, but once you get started it does get easier. If you're having trouble with the plan, ask your health care provider for help. Many women say that they have more energy and feel better when following the meal plan. Remember, when it comes to controlling your blood sugar, you're the one who's in charge, and you can do it. I am confident you can do it.

My motivation to make all these changes and to stay with the meal plan was obviously the baby inside. I wanted him to be healthy. I wanted me to be healthy. So following the meal plan was pretty easy because, you know, you've got this little person, you know, depending upon you.

Don't look at it as something that you have to do. It's something that you want to do.

Even with all the concerns that you have about how the baby's going to turn out. Your body's behaving differently. Uh, your emotional chart is all over the place. Even with all that, the meal plan is completely do-able. The baby's health, my health actually became so much better with the meal plan.

EATING OUT

When you cook in your own kitchen you know exactly what ingredients were used in your meal, and you control what size portion goes on your plate. Going out to eat can be a bit of a challenge, but with some planning, you can enjoy a meal out and keep your blood sugar under control. It's easier to dine out if you first get a good feel for the food portion sizes at home.

If you've been on the meal plan for awhile, you kind of have the hang of what you're doing. You've already looked at your measuring, and you're making your own food, so you know what the size of the portions are. So eating out is not an issue once you know, you'll know what you're doing.

Memorize or bring a copy of your meal plan with you. Don't be embarrassed to ask how a food item is prepared, or to make a special request. You can ask to have salad dressing or sauce served on the side or not added at all. Or you may be able to get extra vegetables instead of an extra starch as a side dish. If portion sizes are too large, either share a meal or ask your server to pack away half your meal before you start eating.

Here are some general guidelines and more tips for controlling your blood sugar, when eating out. Choose baked, boiled, grilled, sautéed, steamed or stir-fried items from the menu. Stay away from breaded, batter-coated and deep-fried vegetables, fish or meat. Choose broth-based items instead of creamy sauces, gravies and soups. Pesto or olive-oil based sauces are fine. Mustard and mayonnaise are fine too. Avoid sweet sauces such as ketchup, relish, oyster, plum, sweet and sour, teriyaki or sweetened tomato sauce. They could raise your blood sugar too high.

You'll need to watch your carbohydrate portions at restaurants too, that includes noodles, pasta, beans, rice, tortillas, pizza crusts and bread. If you're going to have bread – go for whole wheat instead of white. Or order a salad with vinaigrette dressing instead of eating the bread that's often served at the beginning of a meal. Skip the chips at sandwich shops, and if tortilla chips are a temptation at a Mexican restaurant, ask the server to take them away.

Pay close attention to portion sizes, especially carbohydrates, because as we mentioned earlier, they affect your blood sugar more than other kinds of foods. To avoid being too hungry and overeating at restaurants, be sure to eat every 2-3 hours.

GETTING SOME EXERCISE

When they're talking about exercise, when you're talking to your dietitian, they're not talking about going to a gym. They're talking about just going for a walk, taking the steps instead of the elevator. This is easy stuff that you do everyday that you don't even think about. You just want to do a little more of it.

The fact that I did have to do some walking and exercise was good helped me a lot emotionally because that's how I keep the stress out of my life.

I found it helpful when I would exercise with someone else. It would be, it would be easier, and it would be funnier, if you call a friend, or a brother, sister, a girlfriend.

I didn't need a lot of encouragement to get out the door because I knew if I exercised I'd stay healthier.

It controls your blood sugar levels as well, and in keeps you in great shape.



I wouldn't put on as much weight. The baby wouldn't put on as much weight. Which makes, you know the outcome so much better and so much easier.

I would walk, but inside the house, in my backyard, in the patio. Any amount of walking is good after a meal. And the fact that it would help keep my blood sugar down, and it would help me eat that extra bite of food, it was a good motivation.

Regular exercise during pregnancy helps your body use insulin better and will help control your blood sugar levels. Talk with your doctor before you start exercising.

For most women low impact activities such as walking, swimming, riding a stationary bicycle or doing upper body exercises, are all good options for exercise. We recommend exercising for 10 to 20 minutes after meals.

Most women can stay active throughout their pregnancy. Exercising after you eat will help lower your blood sugar. Whenever you exercise, listen to your body, and don't push too hard.

Make sure that you can talk easily while exercising, if you find yourself gasping for air, you should slow down or stop for a while. Also you should also stop if you feel light-headed, faint, dizzy or extremely hot. And make sure you're drinking plenty of water before, during, and after exercise, especially on hot days.

For some women, exercise can make the difference between controlling your blood sugar with diet and activity alone, and having to use medication or insulin. Exercise can also help you maintain a healthy weight gain during pregnancy and then help you lose weight after pregnancy.

POST-PREGNANCY

Let's talk more about healthy weight gain, and some post-pregnancy issues with Dr. Lynn Dowdell, she's a specialist in treating diabetes, at Kaiser Permanente in San Jose.

When some women begin their Gestational Diabetes meal plan, they find they're not gaining weight as they might expect in pregnancy. Should they be concerned?

When you make significant changes in the way you eat, your weight may stay the same initially. That's the not the goal, but it sometimes happens that way. Your meal plan is designed to meet your nutritional needs during your pregnancy while controlling your weight gain. Now, exactly how much weight you should gain during your pregnancy depends a lot on you pre-pregnancy weight, so you need to check with your health care provider for an individual recommendation.

What's the risk of a woman with Gestational Diabetes developing diabetes after her pregnancy?

As you know gestational diabetes is a temporary form of diabetes, and your blood sugar levels will likely return to normal after your baby is born. But, women with gestational diabetes do have an increased risk of developing Type 2 Diabetes later in life and developing Gestational Diabetes during their next pregnancy. Those risks increase if you're overweight. The good news is that, right now, you're learning the very tools you need to help prevent diabetes later in your life. Making healthy food choices, watching your carbohydrate intake, getting regular exercise for at least 30 minutes a day, and controlling your weight; these are all things that will help you to stay healthy and prevent diabetes in your future.

Kaiser Permanente offers an array of classes and resources to help you and your family get active and eat healthy. Go to www.kp.org/healthyliving, or talk to your health care provider.

www.kp.org/diabetes provides information and resources on diabetes and pre-diabetes.

What about breastfeeding for women who've had Gestational Diabetes?

Breastfeeding has a number of benefits for both you and your baby. It can help you lose weight, promote bonding between you and your baby, and it's essentially free. Plus the hormones produced during breastfeeding will help to lower your blood sugar naturally. For your baby, breast milk provides the right balance of nutrients plus protection from infection and allergies. Breastfeeding may reduce the risk of Type 2 diabetes in your child.

To learn more about breastfeeding or to find other post-pregnancy resources go to www.kp.org/pregnancy or www.kp.org/newborn videos.

Any other advice for women after they have delivered?

We recommend you stick with a well-balanced, high fiber diet, after delivery. That and keeping up that habit of daily exercise will go a long way towards preventing diabetes in your future. Gradually lose the weight you gained during pregnancy until you reach your healthy weight. Remember to get your blood sugar tested six weeks after delivering your baby, and each year thereafter. And if you're planning a future pregnancy, talk with your doctor or nurse practitioner first. You'll need to make sure your blood sugar is normal before you get pregnant again.

FINAL THOUGHTS

This is a special time in your life, when you can make healthy changes that will impact both you and your whole family. With obesity and diabetes on the rise in all age groups, you can make a difference in your family's health by making healthy food choices and finding ways for everyone to get regular exercise. We hope the choices you make in the coming months lead to a lifetime of good health for you, your baby and your family.

My son Ian is probably one of the best things that have ever happened to me.

When I look at my son, and I see how healthy and beautiful he is, I really don't even think back on the pregnancy too much. Thinking that oh I had gestational diabetes, and I had to change my life a little bit.

Her name is Giselle, and she's awesome. She's wonderful. She's the best thing that's ever happened to me.

When I see my baby now, I just think that sticking with the meal plan was all worth it. And at the end of the day, when she's asleep and you look at her, it takes your breath away.

My baby Arush, my little boy, he's almost six months old and he's crawling all over the place. And every day I look at him and I say, yes, it was worth it.

It's not as difficult as it first seems. It is possible to come away feeling very positive about the whole experience.

My OB-GYN and Registered Dietitian have told me that if I continue with the meal plan and the exercise, it may just prevent me getting diabetes later on in life, which is something I'm striving to do.

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