

You and Gestational Diabetes

Practical Information for You and Your Baby's Health

What is Gestational Diabetes?

Your doctor has told you that you have Gestational diabetes (GD). It is diabetes that occurs during pregnancy and is quite common. 1 in 20 women who are pregnant are affected by GD. If you have diabetes, your body is not able to manage the sugar you eat and drink in the way it should. In simple terms, the sugar stays in the bloodstream. The high sugar in your bloodstream may cause you to have health problems. The sugar is also able to cross the **placenta** (afterbirth). Your baby is affected by the high sugars that cross the placenta. Your baby could also develop health problems if you do not take good care of yourself.

What causes Gestational Diabetes?

The exact cause of GD is not known. Doctors have some ideas about why GD occurs. Your body makes a hormone named **Insulin**. The Insulin helps make sugar in the blood stream available for the muscles and organs in your body. When the muscles and organs use up the sugar, the sugar in the bloodstream goes down. During pregnancy the placenta makes other hormones that help your baby grow. These pregnancy hormones make your own insulin not work as well. You may develop **Insulin Resistance**. With Insulin Resistance, extra Insulin is needed to make the sugar available to the muscles and organs. Sometimes your body can not make enough extra Insulin. When that happens the sugar in your blood stream rises. High blood sugars are called **hyperglycemia**.

How does Gestational Diabetes affect my baby?

Even though you have GD, it is likely that your baby will be born healthy if you follow your doctor's advice. If you don't manage your blood sugar and it becomes high, some of the extra sugar crosses the placenta to your baby. The extra sugar can make your baby grow larger than normal. If your baby is too large it may have trouble getting through the birth canal – possibly injuring itself or you, the mother. Sometimes a C-section is needed because the baby is too big. If the baby gets stuck in the birth canal it is called **shoulder dystocia**. If that happens, your doctor will need to make some special moves to help you and you baby.

While in your womb, your baby gets all its food from you through the umbilical cord. One of the foods is sugar. Your baby is getting some sugar all the time. Your baby makes his or her own Insulin. Your baby's insulin controls his or her

blood stream sugar. When there is extra sugar from you, your baby must make extra Insulin. When your baby is born, suddenly the food supply (sugar) will be gone. But, there will still be extra Insulin in his or her body. If this happens, the extra Insulin may make your baby's blood sugar too low. During the first few days of life, your baby will be watched carefully in the nursery. Your baby's blood sugar will be checked often. Your baby may be fed more often than normal, or may require an intravenous (IV) sugar solution (given through a tube in the baby's vein) to keep his or her blood sugar from going too low.

New research shows that babies of mothers with diabetes may be at increased risk of being obese as children or adults. These babies may also be at increased risk of becoming diabetic as children or adults.

How does Gestational diabetes affect me?

If you have GD in one pregnancy, it is likely to happen again. For every 3 women who have GD, 2 will have it again in a later pregnancy. You also have a higher risk of developing Type 2 Diabetes later in life. This usually happens after you turn 40. If you eat healthy, are physically active and stay at a healthy weight you can help prevent Type 2 Diabetes. It will be especially important for you to lose weight after you baby is born. Once you have been diagnosed with GD, you also should have a fasting blood sugar check as part of your annual physical exam.

How do I treat Gestational Diabetes?

The best treatment of GD is DIET and EXERCISE. Yes, you can EXERCISE during pregnancy! Your doctor will instruct you about safe EXERCISE during your pregnancy.

The most important goal in treating GD is to keep your blood sugar normal and steady throughout the day. You will need to check the blood sugar level often. Your doctor will teach you how to check it. They will also tell you how often and when to check it. The blood sugar goals are:

Fasting	Less than 95
1 hour after eating	Less than 140
2 hours after eating	Less than 120
Lowest at any time	60

Blood sugar levels go up and down during the day. The levels depend on what you eat, how much you eat and when you eat. It is important for your baby that the levels stay as even as possible. This means that you must eat at regular times. Do not skip meals. Your doctor will recommend that you eat 3 small meals and 3 snacks every day. Your doctor will give you instructions about what

to eat and how much. You may have a session with a dietitian or a nurse or a pharmacist to help you with all these instructions and your meal plan. It is very important that you attend these sessions.

Sometimes eating the right foods and exercising are not enough to ensure a healthy pregnancy. Especially during the second half of pregnancy the Insulin Resistance increases. It may be necessary for you to take medicine or Insulin shots.

Eat a healthy diet. What are carbs?

Carbs or Carbohydrates are the major source of energy for your body. You need some but not too many carbs during your pregnancy. Carbs are in both sugary and starchy foods. Try this test. Take a small piece of white bread. Place it in your mouth, and hold it there. You may chew it, but do not swallow it. After a few minutes, notice how sweet your mouth is. This is because starchy foods are broken down into sugars.

You find carbs in breads, pasta, potatoes, rice and other grains. Carbs are also present in sweet foods such as fruits, dairy foods, vegetables, juices, sodas, desserts and other sweets. Dietary Fiber is a healthier type of carb. Foods that are high in fiber are healthier for you.

It is important that you eat a balance of carbs, proteins and fats while you are pregnant.

What foods should I eat daily?

You will need to eat 3 healthy meals and 3 healthy snacks everyday. This will help keep your blood sugar steady throughout the day. It is important to avoid eating foods high in sugar, like regular soda and sweet tea, until after your baby is born. You should not add sugar to your food. Try to avoid cakes, cookies, pies, sweet tea, juices and other sugar sweetened foods. A little treat every now and then is OK. It is OK to use sugar substitutes – such as Equal, Nutrasweet, Splenda or Sweet and Low - during your pregnancy.

Do NOT skip meals or snacks. Do NOT stop eating carbs. This is not a healthy way to control your blood sugar. Skipping meals and avoiding carbs may cause your blood sugar level to drop too low. A blood sugar that is too low may also hurt your baby.

Follow the Food Pyramid to select foods to eat every day.

Dairy Group: Drink or eat 4 servings each day. Suggestions are 1 cup of low fat milk or 1 large slice of cheese at each meal and as a bedtime snack.

Vegetable Group: Eat 2-4 vegetable servings each day. Fresh, frozen and canned are OK. Use the low or no salt canned products.

Fruit Group: Drink or eat 4 servings of fresh fruit or canned fruit (without sugar added, in natural juice). One serving with each meal and at bedtime spreads the carbs out evenly during the day. One half cup of unsweetened fruit juice counts as 1 serving. Do not drink juice in the morning.

Bread Group: Eat 3 servings of bread AT EACH MEAL. Breads include loaf bread, biscuits, cornbread, unsweetened cereal, crackers, rice, grits, pancakes, tortillas, bagels and starchy vegetables such as potatoes, corn, butter beans and peas. Breads high in dietary fiber and whole grain are especially good for you.

You may be told to do “Carbohydrate Counting”

Carb counting is like having a budget for carbs and then keeping track that you eat enough but not too many. You should eat the same amount of carbs at the same time each day. This will help keep your blood sugar in the normal range and steady throughout the day.

One serving of Bread Group and Fruit Group foods contains about 15 grams of carbs. Dairy Group and Vegetable Group foods contain only 5 grams of carbs per serving. Count Vegetable Group carbs only if you eat more than 2 servings per meal. Meats, meat substitutes and fats do not count as carbs.

Your doctor or dietitian will help you plan your diet. They will give you a carb budget for meals and each snack. They will help you select the right amounts of the foods you prefer to eat. They will determine how many calories you need and add some calories during the 2nd and 3rd trimester to give your baby enough energy to grow and for you to gain the right amount of weight. Usually the carbs make up about 40-45 percent of your calories. Your doctor will tell you how many pounds you should gain.

What is my PERSONAL meal plan?

Your doctor, nurse or dietitian will complete the table below. It tells you how many carbs to eat at each meal or snack. You may count the carbs either by grams or by servings. It is easier to count servings because the numbers are smaller. Use kitchen measuring cups to make sure the serving size is correct.

	Carb Counting	
	Grams (g)	Servings
Breakfast (15-30 g)		
Mid-morning snack (15 g)		
Lunch (60 gm)		
Mid-afternoon snack (15 g)		
Dinner (60 gm)		
Bedtime snack (15 g)		

What if my blood sugars remain uncontrolled with diet and exercise?

Even if you are following a healthy diet and exercising, your blood sugars may still remain too high. Your doctor may recommend that you take medicine. During pregnancy, medication for diabetes usually means taking Insulin shots. Sometimes other medicines may be recommended. Some doctors are prescribing Glyburide during pregnancy. Your doctor may recommend a Consultation with a Maternal Fetal Medicine specialist.

ASK YOUR doctor or nurse IF YOU HAVE ANY OTHER QUESTIONS. If you have access to the Internet, you may find additional information at:

http://www.nichd.gov/health/topics/Gestational_Diabetes_Mellitus.cfm

<http://www.diabetes.org/gestationa-diabetes.jsp>

Sample Carbohydrate Foods and Serving Sizes (each is 1 serving):

Dairy:

- ½ cup sugar free custard, pudding or evaporated milk
- 1 cup low fat milk or sugar-free yogurt
- 1/3 cup non-fat milk powder
- 1 large slice cheese

Vegetables:

- 2 tablespoons tomato sauce
- 1 cup vegetable or tomato juice
- ½ cup cooked vegetable or 1 cup raw vegetable

Fruits:

- ½ cup apple, orange or grapefruit juice
- 1 small apple, peach or orange, banana
- ½ cup applesauce or canned fruit
- ¾ cup fresh blueberries
- 15 small grapes
- 1 kiwi fruit
- ½ large pear or fresh grapefruit
- 2 tablespoons raisins or ¼ cup dried fruit
- 1 ¼ cup fresh strawberries or melon cubes

Breads or Starches:

- 1 slice whole grain bread
- ½ cup cooked whole wheat pasta, corn, cooked cereal, mashed potato, or green peas
- 1/3 cup cooked rice, dried beans or dried peas
- ¾ cup flake (non-sweetened and no sugar added) high fiber cereal
- ½ hamburger or hot dog bun, ½ English muffin or ½ bagel
- 3 cups air-popped popcorn
- 1 small potato
- 2 rice cakes
- 6 saltines or 3 graham crackers

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Sample Meal Plan for a Patient with Gestational Diabetes 1800 calories

Breakfast

½ cup cheese grits made with low fat cheese
1 cup 2% milk

Snack

1 cup cantaloupe

Lunch

2 ounces Baked Chicken Thigh
½ cup mashed potatoes (1 tsp margarine)
1 small roll
½ cup fruit cocktail packed in juice
1 cup turnip greens (seasoned with smoked turkey neck)
1 tsp margarine

Snack

1 slice bread
1 Tbsp peanut butter
1 cup 2% milk

Dinner

2 ounces baked pork loin chop
½ cup corn
2 inch square corn bread
1 cup cabbage steamed and seasoned with canola oil
½ cup unsweetened apple sauce

Snack

1 and ½ graham crackers (sheets or 3 individual crackers)
1 cup 2% milk

Sample Meal Plan for a Patient with Gestational Diabetes 1800 calories

Breakfast

1 6 inch flour tortilla
1 scrambled egg
1 Tbsp green pepper and 1 Tbsp chopped onion
1 cup 2% milk

Snack

1 small orange

Lunch

1 small Wendy's Chili
Caesar Side Salad with one small packet Caesar salad dressing (no croutons)
3 saltine crackers
½ cup mandarin oranges

Snack

6 saltine crackers
1 slice low fat cheese
1 cup 2% milk

Dinner

Chicken Fajita with green peppers and onions (One six inch flour tortilla)
½ cup corn
1 small apple

Snack

1 cup no sugar added, low fat vanilla yogurt
20 pretzel sticks

Sample meal plans prepared by Kay Craven RD, LDN, CDE

CARBOHYDRATE COUNTING CALCULATOR

For Patients with Gestational Diabetes

Weight of patient: _____ lbs

Wt / 2.2 = _____ kg

Wt. (kg) x 25 kcal/kg _____ kcal daily requirement during 1st trimester

Recommended calorie intake during 2nd and 3rd trimester

_____ Kcal + 300 (minimum 1800) = _____ kcal during pregnancy

Recommended calories from carbohydrates (40-45%):

40% x _____ kcal = _____ kcal from carbs

Convert kcal to grams of carbs recommended daily:

_____ Kcal carbs / 4 = _____ grams carbs daily (minimum 175 g/d)

Divide into 3 meals and 2-3 snacks as follows:

Limit breakfast to 15-30 g

Split remaining CHO into 2 meals and 3 snacks. Main meals should be about 60 g CHO.

Remainder divided into 2-3 snacks.

Suggested equation:

_____ g CHO – 30 g (breakfast) = _____ g CHO

_____ g CHO – 60 g (lunch) = _____ g CHO

_____ g CHO – 60 g (dinner) = _____ g CHO

_____ g CHO – 3 = _____ g CHO per snack

NOTE: 15 grams carbs = 1 serving of carbs

EXAMPLE: 2000 kcal daily

40% x 2000 = 800

200 g – 30 g (breakfast) = 170 gm

170 g – 60 g (lunch) = 110 gm

110 g – 60 g (dinner) = 50 gm

50 g / 3 = 15 g per snack

15 grams = 1 serving

Breakfast: 2 servings

Snack: 1 serving

Lunch: 4 servings

Snack: 1 serving

Dinner: 4 servings

Snack: 1 serving