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Gestational Diabetes

The term gestational diabetes means diabetes during pregnancy. Diabetes is a condition where the body is not able to metabolize sugar normally, and it builds up in the blood. People with diabetes either do not make enough insulin or their insulin does not work properly.

Your body turns food into glucose/sugar. All parts of your body need glucose for fuel for you and your baby. **Insulin is a hormone that helps transport sugar into the cells of your body and your baby's body.** Think of insulin as a key that opens a door in to a room. By opening this door, glucose can enter cells and feed your cell and your body.

The placenta is the organ that helps your baby grow and develop. The placenta also releases hormones into your body. Sometimes these hormones that help your pregnancy stay healthy, work against your naturally-occurring insulin. This can cause your blood glucose to be too high, and therefore, your baby's blood glucose will be too high. High blood sugar can cause problems for you and your baby during and after birth.

When you find out you have diabetes in pregnancy, you will many have questions. We are here to work with you and take care of you and your baby. Following our guidelines will help keep your blood sugars in a healthy range.

- There is a pregnancy hormone causing the diabetes. You did not do anything wrong.
- Your body also makes sugar, so elevated fasting blood sugars are common and unrelated to food.
- For most women, after delivery of baby and placenta, their blood sugars go back to normal.
- Birth defects are not seen at a higher rate in gestational diabetes. This condition usually occurs in the late second or into the third trimester, after your baby's organs have formed.
- All women who have had gestational diabetes are at higher risk for diabetes to return in next pregnancy and are at risk for Type 2 diabetes in their future.

Risks of hyperglycemia to the pregnancy

For your baby:

- Your baby may grow too large – this can lead to a more difficult vaginal delivery or c-section
- Your baby's organs may not fully develop
- Your baby's blood sugar may be low after birth
- Your baby could be stillborn

For you:

- You may have high blood pressure
- You may have more infections
- You may be uncomfortable or short of breath
- Your delivery may be harder and recovery may take longer if having C-section

Blood Glucose Monitoring

Testing your blood sugar is the only way that you can be sure your blood sugars are staying in a normal range. We ask that you write down the blood sugar results and bring in your blood sugar log as well as your blood glucose meter at every appointment. Blood sugar logs can be obtained while you are in the office or you may print them from our website.

Goal fasting blood sugar (before breakfast):

Goal is < 95mg/dL

Goal post meal sugars:

< 140 mg/d 1 hour after first bite

<130 mg/dL 2 hours after first bite

Using Insulin in Pregnancy

- If you have to start insulin, following the appropriate diet is still very important.
- Think of injections of insulin as a supplement to what your body is making. The main side effect of insulin is hypoglycemia, which is why it is so important to follow a consistent carbohydrate diet.
- Insulin is safe in pregnancy.
- Our office uses *evidence based standards of care* that direct use of insulin during pregnancy.
- Our guidelines include ADA, AACE 2017 and ACOG 2017, which recommend insulin over oral medications.

Novolog or Humalog (Meal Time Insulin)

- One of these brands of insulin may be prescribed for you (your insurance plan directs our choice).
- **Take injection 5 to 10 minutes before the meal.** Do not take this type of insulin if you are not eating.
- This insulin is **clear in color.**
- The pen/vial you are using can be left at room temperature but keep cap on pen and replace vial into its box.
- Do not store your insulin pen with a needle cap attached. Use a new needle cap with each injection.
- Store unopened pens/vials in the refrigerator.
- Pens or vials good for 28 days; if insulin is still in pen/vial you still will need to throw it away.

Novolin N vial or Humulin N kwikpen (NPH)

- NPH is generally **given at 10PM** when started.
- NPH is not related to your meals. It is given to bring down your blood sugars that are high when you wake up.
- This is a **cloudy or milky colored insulin** that will “settle out.” Pens or vials need to be rolled in your hands to be remixed. It should then look milky white all throughout.
- Re-cap pen and replace vial in its box after use. It can be kept at room temperature once used.
- Do not store your insulin pen with a needle cap attached. Use a new needle cap with each injection.
- A Humulin N kwikpen is good for only 14 days. Throw away the pen and get new one from box kept in refrigerator. NPH vial is good for 28 days.

Needle pen cap and syringe disposal

- DHEC requests disposal of insulin syringes or needle pen caps by placing them in a recyclable container, like a used water or detergent bottle with a screw cap.
- When the container is full, the capped container can be thrown into your regular trash.

Managing and Preventing Hypoglycemia (Low Blood Glucose)

- Do not skip or delay meals or snacks
- Have protein with every meal and snack
- Make sure you eat all allowed carbohydrates at meals and snacks
- Symptoms of hypoglycemia include: shakiness, trembling, sweating, blurry vision, anxiety, fast heartbeats, fatigue, weakness, headache, hunger, “brain fog,” nausea. It is always the right answer to check your blood sugar if you are concerned.

Treatment of Hypoglycemia: “Rule of 15”

- Check your blood glucose: if low, then eat 15 grams of fast-acting sugar - ½ cup juice, ½ cup regular soda, or a small handful of Skittles.
- Wait 15 minutes! It will take that long for the sugar to circulate and for the symptoms to improve.
- Check your blood glucose again to make sure it rises.
- Eat your next meal or snack to keep the sugar from dropping again.
- Let us know, we may need to reduce your dose of insulin.

Nutritional Basics for Gestational Diabetes

- Below, we have provided some basic information for our patients with gestational diabetes. Our providers and educators may make additional recommendations for you based on your blood sugars.
- Eating the right foods will help to control your blood sugar.
- You will need to eat smaller, more frequent meals and snacks.
- Avoid foods that are high in sugar and fat.
- It is very important that you follow your meal plan to provide your baby with good nutrition and also to help promote good blood sugar control.

Every day guidelines:

- Plan to eat 3 meals and 3 snacks, 2 to 3 hours apart. Please try to eat at the same time each day.
- Do not go longer than 10 hours between your bedtime snack and breakfast.
- Do not skip meals or snacks.

What to include:

- Include carbohydrate at each meal and snack according to your specific meal plan. Whole wheat bread (not honey wheat), fresh fruit (except at breakfast), vegetables, beans, legumes, whole wheat pasta, brown or wild rice, and whole grain crackers such as Wheat Thins or Triscuits.
- Include protein at each meal and snack. Lean cuts of meat (loin or round portion), chicken, turkey, fish, eggs, low-fat cheese, cottage cheese, nuts, peanut butter, tofu, etc.
- Choose foods that are low in fat and avoid added extra fats such as oils, margarine, butter, sour cream, mayonnaise, and salad dressings
- Choose non-starchy vegetables at meals. Fill half your plate with these types of vegetables such as asparagus, broccoli, spinach, tomatoes, cauliflower, bell peppers, mushrooms, etc.
- Drink plenty of fluids throughout the day. Decaffeinated tea or coffee, diet flavored water, diet club soda, seltzer waters, Crystal Light, or sugar free Kool Aid are OK. **Water is the best choice.**
- You may use artificial sweeteners in moderation.

What to avoid:

- Foods high in sugar including desserts, honey, jam, jelly, syrup, candy, cookies, cakes, pie, ice cream, frozen yogurt, doughnuts, and Popsicles. Limit condiments with added sugars, such as barbeque sauce and honey mustard.
- Avoid all beverages with added sugar such as regular soda, sweet tea, lemonade, Kool Aid, Gatorade, fruit punch, Sunny Delight, and fruit drinks.
- **Avoid all fruit juices**, even the unsweetened or no sugar added fruit juices.
- You should not eat fruit at breakfast, but you may have fruit at other meals/snacks later in the day.
- Avoid all cold cereals, even the low sugar varieties such as Corn Flakes and Cheerios.
- Limit foods from fast food restaurants.
- Avoid all fried foods.

The Meal Plan

Breakfast: (~8 am)

-30 g carbohydrate (CHO)

-7-14 g protein

-Choose high fiber foods

(No fruit, no juices, no cold cereals!)

Mid-morning snack: (~10 am)

-15 g CHO

-7-14 g protein

(No juice!)

Lunch: (~12-1 pm)

-45 g CHO

-14-21 g protein

-Include non-starchy vegetables, high fiber carbohydrate foods, and lean protein

(No juice!)

Mid-afternoon snack: (~3-4 pm)

-15 g CHO

-7-14 g protein

(No juice!)

Dinner/Supper: (~6-7 pm)

-45 g CHO

-14-21 g protein

-Include non-starchy vegetables, high fiber carbohydrate foods, and lean protein

-(No juice!)

Bedtime snack: (~9-10 pm)

-15 g CHO

-7-14 g protein

(No juice!)

Sample Breakfast Meals

**Each Breakfast meal should include:
2 carbohydrate servings (30 g of carbohydrate)
1-2 protein servings (7-14 g protein)**

2 slices of whole grain toast (at least 2 – 3 grams of fiber per slice)
2 slices of low fat cheese

2 slices of whole wheat bread or toast (at least 2 – 3 grams of fiber per slice)
2 tablespoons of peanut butter

2-egg omelet with low fat cheese, mushrooms, onions, bell pepper, or other non-starchy vegetables
1 slice of whole grain toast
1 cup of low fat (1% or 2%) milk

1 mini whole grain bagel
2 tablespoons of peanut butter, low fat cheese, or an egg
1 cup of low fat (1% or 2%) milk

Scrambled egg wrap:

1 – 2 eggs, scrambled

Chopped vegetables (spinach, bell pepper, asparagus, onions, etc.)

Low fat shredded cheese

1 6-ounce whole wheat tortilla

Wrap egg mixture, vegetables, & cheese in tortilla to make scrambled egg wrap.

1 cup of low fat (1% or 2%) milk

½ cup oatmeal mixed with 2 tablespoons peanut butter & ½ teaspoon cinnamon

1 cup of low fat (1% or 2%) milk

1 cup plain Greek yogurt

1 packet Stevia or Splenda

4 walnut or pecan halves

2 4-inch whole wheat pancakes

2 tablespoons peanut butter

1-2 hard-boiled eggs

½ cup grits with low-fat cheese

1 cup of low fat (1% or 2%) milk

Egg sandwich:

1 whole wheat English muffin

1-2 scrambled eggs with low-fat cheese

Place egg mixture on English muffin and top with sliced tomatoes.

Snack Ideas

**All of these snacks have:
15 grams of carbohydrate & 1-2 ounces of protein (7-14 g protein)**

1-2 ounces of low-fat cheese, 10 Wheat Thins

Nature Valley protein bar

6 Triscuits, 2 Tablespoons of peanut butter

½ turkey sandwich with mustard- 1 slice whole wheat bread, 1-2 ounces turkey, 1 teaspoon mustard

3 graham cracker squares, 2 Tablespoons of peanut butter

1-2 ounces of low-fat cheese, 1 small apple

½ Peanut Butter & Jelly Sandwich- 1 slice whole wheat bread, 2 tablespoons peanut butter, 1 teaspoon sugar-free jelly

English Muffin pizza- ½ whole wheat English Muffin, 2 Tablespoons marinara sauce, 1-2 ounces low-fat cheese; Top English muffin half with sauce & cheese, and toast until cheese is melted

½ cup low-fat cottage cheese, ½ cup unsweetened peaches

6 vanilla wafers, 2 Tablespoons of peanut butter

1 hard-boiled egg, 1 small nectarine

Small tossed salad with 1 ounce low-fat cheese, 2 Tablespoons dried cranberries, handful of walnuts

6 ounces plain Greek yogurt, handful of pecans

Lunch and Dinner/Supper Sample Meals

**Each meal includes:
45 grams of carbohydrate & 2 – 3 protein choices (14-21 g protein)**

2 slices whole grain bread (at least 2 – 3 grams of fiber per serving)
2 – 3 ounces lean turkey (14 – 21 grams of protein)
Lettuce and tomato
1 small apple
1 tablespoon mustard

Tuna salad or chicken salad (homemade):
½ cup plain tuna packed in water (limit to 12 oz per week) or baked/grilled chicken
Mix with low-fat mayonnaise and chopped celery, onions, carrots (add any vegetables desired)
6 Triscuits
½ cup fruit salad
1 cup low fat (1% or 2%) milk

1 cup vegetable soup
6 whole grain crackers (15 grams of carbohydrate)
1 cup cantaloupe
2 ounces low-fat cheese

Chicken soft taco:
2 6-inch corn tortillas
Top with: 3 ounces grilled chicken, 2 tablespoons salsa, 1 tablespoon low-fat plain Greek yogurt, shredded lettuce, and tomato
1 small orange (size of tennis ball)

Homemade chicken Caesar salad:
2 cups Romaine lettuce
½ cup low-fat croutons
2 – 3 ounces baked chicken
2 Tablespoons Parmesan cheese
1 tablespoon low-fat Caesar dressing
½ cup of unsweetened applesauce or a small apple (size of tennis ball)
1 cup low fat (1% or 2%) milk

1 regular small hamburger (fast food)
1 garden salad with 1 small packet of vinaigrette dressing
1 cup low fat (1% or 2%) milk

2 slices whole grain bread
2 tablespoons peanut butter with 1 tablespoon sugar-free jelly
(or 2-3 slices of low-fat cheese instead)
1 cup low fat (1% or 2%) milk

2/3 cup whole wheat pasta with 1/2 cup spaghetti sauce
2 – 3 ounces lean meat (ground round, ground turkey, etc.)
2 tablespoons Parmesan cheese
Tossed salad with 2 tablespoons of vinaigrette

1 cup brown rice or wild rice
1 cup roasted broccoli
2 – 3 ounces baked chicken breast
1 snack pack of sugar-free Jello

2 – 3 ounces turkey breast with 1 tablespoon low-fat gravy
1/2 cup roasted sweet potatoes
1/2 cup corn
1/2 - 1 cup steamed broccoli
1 cup low fat (1% or 2%) milk

1 medium-sized baked potato (size of a computer mouse) topped with 2 Tablespoons low-fat cheese & 1
Tablespoon plain nonfat Greek yogurt
1 cup green beans
2 – 3 ounces broiled fish
1/2 cup of unsweetened applesauce
1 cup low fat (1% or 2%) milk

1 whole wheat hamburger bun
2 – 3 ounces lean ground beef or ground turkey topped with lettuce and tomato
1 Tablespoon mustard
Tossed salad with 2 tablespoons of vinaigrette
3/4 cup blueberries

3 ounces baked chicken
1/3 cup brown rice
1/2 cup black beans
1 cup grilled zucchini brushed with olive oil
1 1/4 cup watermelon cubes

1 cup all-bean chili topped with 1/4 cup low-fat shredded cheese
1 small piece cornbread
1 cup salad with 2 tablespoons of vinaigrette

3 ounces grilled pork loin
1/2 cup green peas
1 cup sautéed green beans with olive oil
1 small whole wheat roll
1/2 banana (about 4 inches)

3 ounces grilled shrimp
1 cup whole wheat pasta
1 cup roasted broccoli and cauliflower with 1 teaspoon of olive oil

* Standards of Medical Care in Diabetes 2015/American Diabetes Association