

Diabetes

Life Lines



October-November 2017

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Diabetes - the Medical Perspective

Diabetes and Pregnancy

Diabetes is the most prevalent complication in pregnancy. The goal of all pregnancies is a healthy outcome for mom and baby. Diabetes adds a unique set of challenges to pregnancy.

Pregnancy complicated with diabetes includes two groups. The first is women with pre-existing diabetes. This group includes both type 1 diabetes and type 2 diabetes. The second group is women with gestational diabetes. Gestational diabetes is diabetes diagnosed during the second or third trimester of pregnancy, and not clearly type 1 or type 2 diabetes.

Greater attention to diabetes self-management and intensive insulin therapy in both groups of women have resulted in improved maternal blood glucose control. This means better outcomes for both mother and child. In the United States, it is estimated that some form of diabetes complicates 6% - 7% of all pregnancies. Gestational diabetes makes up 90% of these cases

and rates are increasing. These increasing rates are likely due to the prevalence of overweight or obesity in women of childbearing age.

Pre-conception counseling is a very important part of diabetes care for women of childbearing age with existing diabetes. This counseling helps identify and manage risk that can affect the pregnancy outcome. Complications decrease when a pregnant woman enters pregnancy with optimal glucose levels. Women of childbearing age with diabetes should maintain an effective method of contraception until a hemoglobin A1C level less than 6.5% is achieved. This assures the least risk of fetal abnormalities.

Glucose control is the key to a healthy outcome for both mom and baby. Some women with gestational diabetes may be able to achieve adequate glucose control by following a healthy meal plan, maintaining appropriate gestational weight gain, and being physically active, within the recommendations of their health care provider. Insulin is the preferred medication to control glucose levels in pregnancy because it does not cross the placenta to any measurable degree. Metformin and glyburide may also be used, but do cross the placenta and lack long-term safety data.

There is a lack of agreement for exact timing of glucose monitoring and target ranges during pregnancy. You will likely be asked to check your fasting blood glucose each morning, one or two hours after each meal and at bedtime. Depending on your needs and treatment plan, you may also need to check your blood glucose before meals. There is no disagreement however, that maintaining normal glucose levels is the critical goal of diabetes and pregnancy.

Work with your health-care team to set target blood glucose ranges and a monitoring schedule appropriate for you to achieve optimal glucose management. A multi-disciplinary health-care team can support you and may consist of the following disciplines, depending on your needs:

- Obstetrician-will monitor you and your baby's health throughout the pregnancy
- Endocrinologist-a medical doctor that specializes in treating diabetes
- Ophthalmologist-an eye specialist that can monitor any diabetes-related changes to the small blood vessels of your eyes that can progress with pregnancy
- Registered dietitian-will assist you in diabetes meal planning to assure adequate blood glucose control and proper nutrition
- Certified diabetes educator-will provide education regarding blood glucose monitoring and insulin administration

Diabetes and Food

A healthy diet is important for all pregnancies. This starts with an individualized diabetes food plan with the following goals:

- Maintain appropriate gestational weight gain
- Provide adequate nutrients for mom and baby
- Maintain adequate glucose control and minimize fluctuations in blood glucose
- Avoid ketosis

Adequate calories are necessary for normal fetal growth and are determined by the mother's age, height, weight and physical activity. Each woman's meal plan should be individualized and based on her personal food preferences, blood glucose levels, and physical activity. A meal plan of three meals and three snacks works well for many women with diabetes. The Dietary Reference Intake for carbohydrate in pregnancy for women 19-50 years of age is a minimum of 175 grams of carbohydrate. This minimum amount of carbohydrate is necessary to provide adequate glucose for fetal growth and for the maternal brain.

Mealtime insulin must be adequate to match carbohydrate intake. An insulin-to-carbohydrate ratio is used by many women to adequately dose insulin at meals, and snacks. Insulin requirements increase as the pregnancy progresses. The insulin-to-carbohydrate ratio will likely change often during the second and third trimester.

Recipes to Try

Autumn Vegetable Soup

Ingredients

6 servings per recipe

- 1 Tablespoon olive oil
- 1 large onion, finely chopped
- 1 red bell pepper, chopped
- 2 teaspoon dried rosemary
- ¼ teaspoon red pepper flakes
- 2 pounds butternut or other hard-shelled squash
- 4 cups low-sodium low fat chicken broth
- 1-15 ounce can cannellini beans, rinsed and drained
- 1 bunch Swiss chard, tough stems removed, coarsely chopped
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Directions

1. Warm oil in a large saucepan over medium heat. Add the onion, bell pepper, rosemary, and pepper flakes. Sauté until the onion and bell pepper are tender, about 12 minutes.
2. Add the squash and cook, stirring frequently, about 2 minutes.
3. Add the 4 cups broth and the beans. Bring to a boil, reduce the heat to simmer, stirring occasionally, about 25 minutes.
4. Add the chopped chard and simmer until wilted, about 5 minutes. Thin the soup with more broth if desired.
5. Preparation time: 5-10 minutes.

Nutrition Facts per serving

Calories	175	Fat	4 grams
Protein	10 grams	Calories from fat	32
Carbohydrate	30 grams	Cholesterol	0 mg
Fiber	7 grams	Sodium	345 mg

This and other recipes available at

<http://urbanext.illinois.edu/diabetesrecipes/intro.cfm>

Scrambled Egg and Veggie Breakfast Pizza

Ingredients

- 4 eggs, beaten
- 2 teaspoons olive oil
- ¼ cup skim milk
- ¼ teaspoon salt
- ¼ teaspoon pepper
- ¼ cup onion, chopped
- 2 tablespoons red pepper, chopped
- ½ cup baby spinach, coarsely chopped
- ⅓ cup 2% sharp cheddar cheese, shredded
- 2 whole wheat English muffins, split and toasted

4 servings per recipe



Directions

1. Beat eggs, milk, salt and pepper with a whisk.
2. In a skillet heat oil over medium heat and sauté onion and red pepper for about 3 minutes. Add spinach until leaves start to wilt.
3. Pour egg mixture over sautéed vegetables and cook stirring until eggs mixture is scrambled.
4. Stir cheese into egg mixture until melted.
5. Divide scrambled egg and vegetable mixture in four servings and serve each over half of a toasted English muffin.

Nutrition facts per serving

Calories	193	Fat	9 grams
Protein	11 grams	Calories from fat	80
Carbohydrate	16 grams	Cholesterol	168 mg
Fiber	2 grams	Sodium	400 mg

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Sample Menu

BREAKFAST	Amount/ Portion
Scrambled egg & veggie pizza [†]	2 servings
Small orange	1
Skim Milk	1 cup
536 Calories; 60 Grams Carbohydrate; 4 Carbohydrate Choices	
SNACK	
Small apple	1
Peanut butter	2 tablespoons
270 Calories; 20 Grams Carbohydrate; 1.5 Carbohydrate Choices	
LUNCH	
Autumn vegetable soup [†]	1 serving
Vanilla non-fat Greek yogurt	6 ounces
Banana Walnut Muffin †	1 serving
485 Calories; 69 grams Carbohydrate; 4.5 Carbohydrate Choices	
SNACK	
Whole wheat crackers	6
Cheddar cheese	1 ounce
193 Calories; 15 Grams Carbohydrates; 1 Carbohydrate Choice	
DINNER	
Baked chicken breast	4 ounces
Baked sweet potato	1 large
Soft tub margarine	2 teaspoons
Steamed green beans	1 cup
Skim milk	1 cup
527 Calories; 60 Carbohydrates; 4 Carbohydrate Choices	
SNACK	
Whole wheat bread	1 slice
Sliced turkey	2 ounces
Skim Milk	1 cup
247 Calories; 30 grams Carbohydrates; 2 Carbohydrate choices	
Total: 2258 Calories; 254 Grams Carbohydrate; 17 Carbohydrate Choices	

[†] Recipes from *Recipes for Diabetes* at <http://urbanext.illinois.edu/diabetesrecipes/>
or this newsletter



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