



FIGURE 4
The Six Food Groups

Other Nutritional and NonNutritional Considerations:

Alcohol.

There is no known safe level of alcohol to allow during pregnancy. Daily heavy alcohol intake causes severe defects in development of the body and brain of the fetus, called Fetal Alcohol Syndrome. Even moderate drinking is associated with delayed fetal growth, spontaneous abortions, and lowered birth weight in babies. The Surgeon General's office warns: "Women who are pregnant or even considering pregnancy should avoid alcohol completely and should be aware of the alcohol content of food and drugs."

Salt.

Salt restriction is no longer routinely advised during pregnancy. Recent research shows that during pregnancy the body needs salt to help provide the proper fluid balance. Your health care provider may recommend that you use salt in moderation.

Caffeine

Studies conflict on the potential danger of caffeine to the fetus. Caffeine is found primarily in coffee, tea, and some sodas (table 6). Moderation is recommended. Talk to your doctor or other health professional about the maximum amount of caffeine recommended.

TABLE 6. Caffeine Comparisons

Food	Serving Amount of Caffeine	
Regular coffee	8 oz.	80-200 ma.
Instant coffee	8 oz.	60-100 ma.
Decaffeinated coffee	8 oz.	35 ma.
Tea	8 oz.	60-65 ma.
Carbonated drinks		

e.g. colas	12oz.	3065 mg.
Hot chocolate	8 OZ.	13 ma.

Megavitamins.

Megavitamins are defined as 10 times the Recommended Dietary Allowance* of vitamins and minerals and are not recommended for pregnant women. Although it is possible to get all of the necessary nutrients from food alone, your doctor may prescribe some prenatal vitamins and minerals. If taken regularly, along with a balanced diet, you will be getting all the vitamins and minerals needed during your pregnancy.

Smoking.

Research has shown without question that smoking during pregnancy increases the risk of fetal death and pre-term delivery, impairs fetal growth, and can lead to low birth weight. It is best to stop smoking entirely and permanently, or at the very least, to cut back drastically on the number of cigarettes you smoke.

What food patterns help keep blood sugar levels normal?

The following outlines food patterns which help to keep blood sugar levels within an acceptable range.

Avoid sugar and foods high in sugar. Most women with gestational diabetes, just like those without diabetes, have a desire for something sweet in their diet. In pregnant women, sugar is rapidly absorbed into the blood and requires a larger release of insulin to maintain normal blood sugar levels. Without the larger release of insulin, blood sugar levels will increase excessively when you eat sugar-containing foods.

There are many forms of sugar such as table sugar, honey, brown sugar, corn syrup, maple syrup, turbinado sugar, high fructose corn syrup, and molasses. Generally, food that ends in "ose" is a sugar (e.g., sucrose, dextrose, and glucose).

Foods that usually contain high amounts of sugar include pies, cakes, cookies, ice cream, candy, soft drinks, fruit drinks, fruit packed in syrup, commercially fruited yogurt, jams, jelly, doughnuts, and sweet rolls. Many of these foods are high in fat as well.

Be sure to check the list of ingredients on food products. Ingredients are listed in order of amount. If an ingredient is first on the list, it is present in the highest amount. If some type of sugar is listed first, second, or third on the list of ingredients, the product should be avoided. If sugar is further down, fourth, fifth, or sixth, it probably will not cause your blood sugar levels to go up excessively.

Fruit juices should only be taken with a meal and limited to 6 ounces. Tomato juice is a good choice because it is low in sugar. Six ounces of most other juice (apple, grapefruit, orange) with no sugar added still contain approximately 4 to 5 teaspoons of sugar. However, these do not contain much of the fiber of a piece of fruit which normally would act to slow the absorption of sugar into the blood. If you drink juice frequently to quench your thirst during the day, a high blood sugar level may result. Use only whole fruit for snacks.

To help with the occasional sweet tooth that we all have, artificial sweeteners may be used in foods. Aspartame has been extensively tested for safety. Use during pregnancy has been approved by the Food and Drug Administration and by the American Medical Association's

Review Board. However, aspartame has not been tested for longterm safety and has not been on the market very long. It may be best to avoid its use until more tests have been done.

Saccharin is not advised during pregnancy. Likewise, use of mannitol, xylitol, sorbitol, or other artificial sweeteners is not recommended until further research is done.

Fructose is a special type of sugar that is slowly absorbed into the system. A small amount of fructose can be used if your blood sugar levels are within normal range. However, fructose still has 4 calories per gram, as much as table sugar. High fructose corn syrup is part fructose and part corn syrup, making it very similar to table sugar in composition. It will raise blood sugar levels and should definitely be avoided.

*Dietary allowances established by the National Academy of Sciences-National Research Council.

Emphasize the use of complex carbohydrates. These include vegetables, cereal, grains, beans, peas, and other starchy foods. A wellbalanced diet with plenty of fiber provided by vegetables, dried beans, cereals, and other starchy foods decreases the amount of insulin your body needs to keep blood sugars within a normal range. Anything that decreases the need for insulin is beneficial. The American Diabetes Association recommends that at least one-half of your calories come from complex carbohydrates. Starchy foods include pasta, rice, grains, cereals, crackers, bread, potatoes, dried beans, peas, and legumes. Also, contrary to popular belief, carbohydrates are not highly fattening when eaten in moderate amounts and without the rich sauces and toppings often added.

Emphasize foods high in dietary fiber. Fiber is the edible portion of foods of plant origin that is not digested (e.g., skins, membranes, seeds, bran). Foods with a high fiber content include whole grain cereals and breads, fruits, vegetables, and legumes (dried peas and beans). Fiber aids digestion and helps prevent constipation. The fiber found in fruits, vegetables, and legumes also helps keep your blood sugar level from becoming too high without requiring extra insulin.

Keep your diet low in fat. Some fat is needed to help with the absorption of certain vitamins and to provide the essential fatty acids necessary for fetal growth. A diet which is high in fat causes the insulin to react in a less efficient manner, necessitating more insulin to keep blood sugar levels within normal range. Foods high in saturated fats such as fatty meats, butter, bacon, cream (light, coffee, sour cream, etc.), and whole milk cheeses are likely to be high in total fat. Most foods with saturated fat are also high in cholesterol because they are fats from animal origin. However, foods such as crackers made with coconut, palm, or palm kernel oil can be high in saturated fats as well. Read labels carefully. Unsaturated fats are found in foods such as fish, margarine and vegetable oils. Keep your use of salad dressings to a minimum and whenever possible use those prepared with olive oil. To help keep the diet lower in fat, avoid adding extra fats such as rich sauces and creamy desserts, and bake or broil foods instead of frying them. Replacing fatty foods with those high in complex carbohydrates is also helpful.

Include a bedtime snack that is a good source of protein and complex carbohydrates. Women with gestational diabetes have a tendency toward lower than normal blood sugar levels during the night. This causes the body to increase its utilization of fats as a fuel source. As fat is used, ketones (discussed later) are produced as a byproduct of the breakdown of fats, and in large amounts, may be harmful to the fetus. This can be prevented by having a bedtime snack that provides protein and complex carbohydrates such as starchy foods. Starch will stabilize your blood sugar level in the early night, while protein acts as a longacting

stabilizer.

Examples of a bedtime snack are:

1 oz. American processed cheese + 5 crackers

1/2 chicken sandwich on whole wheat bread

3 cups unbuttered popcorn + 1/4 cup nuts

If you need to take insulin, a bedtime snack is critical and you should not omit it. When taken by injection, insulin acts to lower blood sugar level, even during the night when meals are not eaten. A bedtime snack is protective against low blood sugars while sleeping or upon arising. If a bedtime snack causes heartburn, sleep with your head raised on pillows, and be careful that you are not eating too large a bedtime snack.

How do I plan meals?

A registered dietitian or qualified nutritionist can help you plan a meal pattern that is right for you. Most women with gestational diabetes need three meals and a bedtime snack each day. It is unwise for anyone who is pregnant to go long periods of time (greater than 5 hours) without eating, as this will produce ketones. Extra snacks are necessary if your schedule results in a long time between meals. Blood sugars will be easier to keep in the normal range if meal times and amounts (total calories) are evenly spaced. It's more likely that a higher blood sugar will result if the majority of calories are eaten at dinner) than if they are distributed more evenly throughout the day. If insulin injections prove necessary, the time at which meals are eaten and the amounts eaten should be approximately the same from day to day. Do not skip meals and snacks, as this often results in hypoglycemia (low blood sugar), which may be harmful to the fetus and makes you feel irritable, shaky, or may result in a headache.

Sample Menu — 2000 Calories

This diet is planned for women whose normal non-pregnant weight should be 130-135 lbs. For women who weigh less than 130 before pregnancy, the diet should contain fewer calories. Women who are overweight are at higher risk for gestational diabetes. Your health care provider can discuss this and help you make necessary changes.

BREAKFAST

1/2 grapefruit

3/4 cup oatmeal, cooked

1 tsp. raisins

1 whole wheat English muffin

1 tsp. margarine

LUNCH

Salad with:

AFTERNOON SNACK

2 rice cakes

6 oz. lowfat yogurt, plain

1/2 cup blueberries

DINNER

3/4 cup vegetable soup with

1/4 cup cooked barley

3 oz. chicken, without skin

1 baked potato

1 cup romaine lettuce	1/2 cup cooked broccoli
1/2 cup kidney beans, cooked	1 piece whole wheat bread
1/2 fresh tomato	1 tbsp. margarine
1 oz. part skim mozzarella cheese	1 fresh peach
2 tbsp. lowcalorie Italian dressing	BEDTIME SNACK
1 bran muffin	
1/2 cup cantaloupe chunks	1 apple
	2 cups popcorn, plain
	1/4 cup peanuts

What can be done to slow weight gain during pregnancy?

Gaining too much weight during pregnancy will make blood sugar levels higher than normal for women with gestational diabetes. Yet, for many pregnant women it is very difficult to gain weight slowly and still get all of the recommended nutrients. Luckily, fat, which is high in calories (9 calories per gram), is needed in only small amounts during pregnancy. Carbohydrates and protein, in contrast to fat, provide only 4 calories per gram. To cut calories without depriving the fetus of any necessary nutritional factors, it is best to avoid fats and fatty foods.

Avoid highfat meats. Choose lean cuts of beef, pork, and lamb. Emphasize more fish and poultry (without the skin).

Avoid frying meat, fish, or poultry in added oil, shortening, or lard. Bake, broil, or roast instead.

Avoid foods fried in oil such as chips, french fries, and doughnuts. Substitute pretzels, unbuttered popcorn, or breadsticks instead.

Avoid using cream sauces and butter sauces, as well as salt pork for seasoning on vegetables. Season with herbs instead.

Avoid using the fat drippings from meat or poultry for gravy. Use broth or bouillon instead and thicken with cornstarch.

Avoid using mayonnaise or oil for salads. Use vinegar, lemon juice, or low-calorie salad dressings instead.

To help reduce calories choose low-fat dairy products. During pregnancy you need 1200 mg calcium daily to build the fetal skeleton without drawing from maternal calcium stores. Table 7 points out foods in which the calcium content is almost the same, yet the calories are not due to the difference in fat content.

The difference between 600 calories and 340 calories is only 260 calories and may seem insignificant. Yet, if your diet is cut by 260 calories daily for 1 week, your weight gain slows down by approximately 1/2 pound per week. In other words, instead of gaining 1-1/2 pounds

per week you will only gain 1 pound per week.

If cheese is a part of your daily diet, use lowfat cheeses such as lowfat cottage cheese, Neufchatel, mozzarella, farmers, and pot cheese. Avoid using cream cheese, as it has little protein and most of its calories come from fat.

Even though pregnancy can be a very hectic time, with little time for meal preparation, eat less and less often at “fast food” restaurants. Studies have shown that some foods from fast food restaurants average 40 to 60 percent of their calories from fat, and are quite high in calories.* For example, chicken and fish that are coated with batter and deep-fried in fat may contain more fat and calories than a hamburger or roast beef sandwich.

*Fast Food Facts: Nutritive and Exchange Values for Fast Food Restaurants Marion J. Franz, International Diabetes Center. Minneapolis, Minnesota, 1987. 54 pp.

TABLE 7. Calorie Comparisons

Food	Calories
48 oz. glasses whole milk	600
48 oz. glasses 2milk	480
48 oz. glasses skim milk	340
28 oz. glasses whole milk plus	
3 oz. American processed cheese	600
28 oz. glasses 2milk plus	
3 oz. American processed cheese	540
28 oz. glasses skim milk plus	
3 oz. American processed cheese	470

Go lightly when using butter and margarine. Adding only an extra three pats of butter or margarine (same calories) daily could add an extra pound of weight gain next month. It may be better to emphasize the use of foods rich in complex carbohydrates that don't use butter, margarine, or cream sauce to make them palatable. Many people find rice, noodles, and spaghetti tasty without a lot of butter. Use a variety of spices and herbs (such as curry, garlic, and parsley) to flavor rice and tomato sauce to flavor pasta without additional fats.

It is also a good idea to eat small amounts frequently, thereby keeping the edge off your appetite. This will assist your “self-control” in avoiding large portions of food that you should not have. Avoid skipping meals or trying to cut back drastically on breakfast or lunch. It will leave you too hungry for the next meal to exercise any control. Your doctor or dietitian can help you determine how you can cut extra calories.

You may find it helpful to keep food records of what you eat, as most of us tend to forget or not realize the extent of our snacking. Recording everything you eat or drink tends to be a sobering and instructive experience. A Food and Exercise Record Sheet is included at the end of this book.

Be careful to maintain a weight gain of at least 1/2 pound per week, over several weeks, if you are in the second trimester (14 weeks or more of gestation). Cutting back more than this may increase the risk of having a low-birth-weight infant.

Is breast-feeding recommended?

Breast-feeding is strongly encouraged. For most women this represents the easiest way back to pre-pregnancy weight after delivery. The body draws on the calories stored during the first part of pregnancy to use in milk production. Approximately 800 calories per day are used during the first 3 months of milk production, and even more during the next 3 months. By 6 weeks after delivery, women who breast-feed usually have lost 4 pounds more than women who bottle-feed. This can be a very important factor, as it is strongly recommended that women with gestational diabetes return to their desirable body weight 4 to 5 months postpartum. As previously mentioned, maintaining a weight appropriate for your height and frame may reduce the risk of developing diabetes later in life.

In addition, breast-feeding has many advantages for your baby. Protection from infection and allergies are transferred to the baby through breast milk. This milk is also easier to digest than formula, and its minerals are better absorbed than those in formula.

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