
Diabetes Life Lines



A newsletter from your county Extension office
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Monitoring Blood Glucose After Meals in Type 2

If you check your blood glucose levels before meals only, you may be missing part of the big picture. Although those numbers may look good, you may be surprised when you see the results of your A1c.

Years before type 2 diabetes is even diagnosed, the pancreas slowly loses its ability to release enough insulin in response to the rapidly rising blood glucose levels after eating. By the time a person is diagnosed with type 2 diabetes, this response is practically absent. This causes blood glucose levels to be much

higher after meals than fasting or before meals. A person in the early stages of type 2 diabetes may have normal blood glucose levels fasting and before meals, but after-meal levels may be high. Checking blood glucose levels only before meals may give good results and not reveal the uncontrolled glucose levels after meals.



High blood glucose levels after meals increase with age. In people with type 2 diabetes over 70 years of age, more than half will have fasting blood glucose levels in the normal range. In the natural progression of type 2 diabetes, fasting blood glucose levels begin to rise with time as the pancreas produces less insulin.

Physical Activity is a Family Affair

The increase in type 2 diabetes in adults and children is related to the sedentary lifestyle common in America today. Children and adolescents are less physically active today than their parents were when they were young. Consequently, the prevalence of overweight adolescents has tripled in the



past 2 decades.

Although many of us have fond memories of outdoor games or sports after school and our parents calling us home when it was either dark or time to go to bed, children today are often more likely to stay at home watching TV after school, playing video games, or E-mailing friends. Technology has created ways to occupy the minds of both children and adults while sitting still for hours - the most activity coming from moving the fingers on the remote control or keyboard.

Children should get at least 60 minutes and adults 30 minutes of moderate physical activity most days of the week. More physical activity is recommended for weight loss.

Increasing the level of physical activity of children requires the entire family to become more physically active. Adults should set an example for children and adolescents by eating healthy foods and showing that they enjoy being physically active. An overweight, inactive adult who watches TV all evening will have difficulty convincing a child or adolescent to increase their physical activity. Following are some suggestions to increase the physical activity in your family:

- Plan leisure time activities that

provide the entire family with exercise and enjoyment instead of activities that require you to sit and watch.

- Provide a safe environment for your children and their friends to play.
- Encourage your children to participate in sports or activities like swimming, biking, skating, ball sports, and other fun activities.
- Reduce the amount of time you and your family participate in sedentary activities.
- Remove TVs from children's rooms. Limit TV or video game time to less than 2 hours a day or have children "buy" their TV time with physical activity time.



Remember that you are influencing behaviors in your children that will develop into habits that can last a lifetime. If you can show them that physical activity is enjoyable and that it is healthy for everyone, they are more likely to work it into their everyday life and continue it until it becomes a lifelong habit.

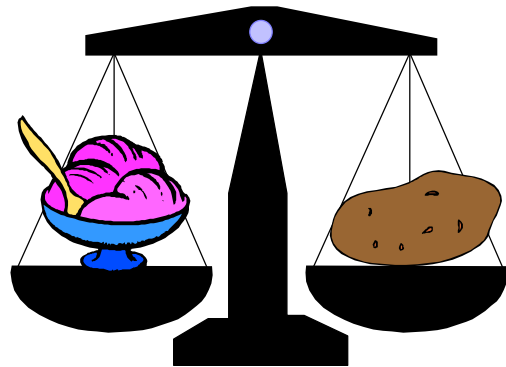
Sugar Vs Carbohydrate - the New ADA Nutrition Guidelines

For years people with diabetes were told to stay away from sweets to control their diabetes, but now the emphasis is on eating healthy foods without unnecessary food restrictions and monitoring the blood glucose response. The new nutrition recommendations for diabetes, released in January by the American Diabetes Association, support the fact that foods containing sugar do not need to be avoided by people with diabetes based on the effect on blood glucose.

Recent research has shown us that the amount of carbohydrate is more important than the type in affecting the blood glucose response to a meal. For years the accepted opinion was that foods with sugar increased blood glucose to a much greater extent than starchy foods. We now know that equivalent amounts of carbohydrate affect the blood glucose in a very similar way regardless of the type or source of carbohydrate. Therefore, sweets can be eaten occasionally without adversely affecting blood glucose control if they are substituted for other foods containing carbohydrate within the same meal, or covered with mealtime insulin.

Since carbohydrate is the one nutrient that directly affects the rise in blood

glucose after meals, keeping the carbohydrate consistent from day-to-day will generally result in better blood



glucose control if you take a fixed dose of insulin each day, oral diabetes medication, or no medication. However, if you take short-acting or fast-acting insulin before each meal, you should adjust the dose based on the amount of carbohydrate you plan to eat at the meal. Taking premeal insulin at each meal allows you more flexibility in the amount of carbohydrate you can eat at a meal and maintain control of blood glucose. A registered dietitian on your diabetes team will teach you how to calculate your carbohydrate to insulin ratio.

Carbohydrate counting, or keeping track of the amount of carbohydrate you eat at each meal, can help improve blood glucose control for anyone with diabetes. You can count the grams of carbohydrate at your meals using the grams of “total carbohydrate” per serving on food package labels, *Exchange Lists for Meal*



Planning, or various reference books that list grams of carbohydrate for various foods. A registered dietitian can help you decide how much carbohydrate you should have at each meal and snack.

Keep in mind that this is not a recommendation to forgo your healthy meal plan for sweets and “junk” food. Most foods containing sugar also contain significant amounts of fat, usually saturated. Not only does a high-fat diet promote weight gain, but it can also increase the risk of heart disease, a risk that is already 2-4 times higher in people with diabetes. In addition, sugar-containing foods often take the place of healthier foods.

The major point here is that people with diabetes should eat healthy foods like anyone else, and that an occasional dessert will not affect diabetes control if one accounts for the carbohydrate content.

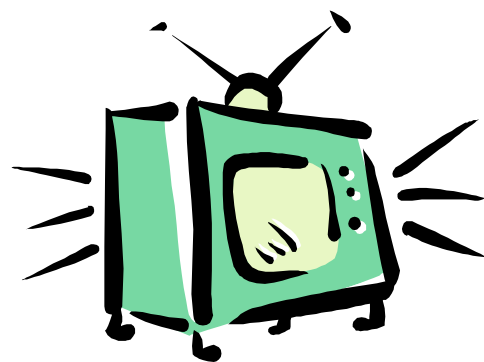
TV Increases Risk of Diabetes

How many hours a week does your family watch TV? A recent study of over 37,000 men aged 40-75 published in the *Archives of Internal Medicine* revealed that those who watched more hours of TV were more likely to develop type 2 diabetes.

Prolonged TV watching reveals an inactive lifestyle. It is known that TV

watching is associated with obesity in children and adults. Results of the landmark study, the Diabetes Prevention Program, showed that increasing daily physical activity along with a modest weight loss could prevent or delay the development of type 2 diabetes in those at high risk.

With the epidemic of type 2 diabetes in our country, we should all be making every effort to increase the daily physical activity in our families. Adults should set a good example for children, reducing their time spent sitting and participating more in physically-active leisure activities with the family. Measures should be taken to reduce inactivity in the family by setting limits on time watching TV, playing computer games, and other sedentary activities to help prevent type 2 diabetes.



Blueberry Oatmeal Muffins

1 cup quick cooking oatmeal 1 tablespoon baking powder
1 cup skim milk 1 egg or 2 egg whites or 1/4 cup egg substitute
1/2 cup whole wheat flour 1/4 cup canola oil
1/2 cup white flour 1 cup fresh or frozen blueberries
1/3 cup sugar Non-stick vegetable spray

Preheat oven to 425°.

1. Combine oats and milk in medium bowl; let stand 15 minutes.
2. Spray muffin pans with non-stick spray.
3. Combine flour, sugar, baking powder in large bowl.
4. Add egg and oil to oat mixture. Blend well.
5. Add the oat mixture to the flour mixture and mix until just moistened. Stir in blueberries.
6. Fill muffin tins 2/3 full with batter; bake at 425 degrees for 20-25 minutes.

Serves 10 Serving size: 1 muffin Exchange: 1 1/2 starches, 1 fat
Calories: 171 Carbohydrate: 24 grams Fat: 7 grams
Sodium: 140 milligrams Cholesterol: 22 milligrams Fiber: 2.1 grams

Suggested Breakfast Menu

<u>Menu Item</u>	<u>Exchanges</u>	<u>Carbohydrate</u>
1/2 cup orange juice	1 fruit	15 grams
1 <i>Blueberry Oatmeal Muffin</i> *	1 1/2 starch, 1 fat	22 grams
1 cup lite, nonfat fruit-flavored yogurt	1 milk, 1/2 fruit	23 grams

* *This month's featured recipe*

Note: Portions may need to be adjusted for your meal plan.

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Dear Friend,

Diabetes Life Lines is a bi-monthly publication sent to you by your local county Extension agent.

It is written by Food and Nutrition Specialists at the University of Georgia, College of Family and Consumer Sciences. This newsletter brings you the latest information on diabetes, nutrition, the diabetic exchange system, recipes, and important events.

If you would like more information, please contact your local county Extension office.

Yours truly,

County Extension Agent

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