



CARBOHYDRATE COUNTING FOR CHILDREN WITH DIABETES

INTRODUCTION

Carbohydrate counting is recommended for all people with diabetes because it helps a person determine the amount of sugar and starch (carbohydrates) in foods. This is important because within 1 to 2 hours after eating, carbohydrates have changed into blood sugar. Carbohydrates affect blood sugar level more than other nutrients (proteins and fats).

When you know how many carbohydrates are in the foods your child eats, you can spread them throughout the day, which helps prevent high blood sugar after meals. High blood sugar can make your child feel tired and thirsty, and over time, high blood sugar levels can damage many body organs and tissues.

Carbohydrate counting is simple once you learn what foods contain carbohydrates. Follow this method by:

- Testing your child's blood sugar after meals to see what effect different foods containing carbohydrates have on his or her blood sugar level.
- Spreading the carbohydrate-containing foods your child likes throughout the day to prevent high blood sugar levels after meals.

WHAT IS CARBOHYDRATE COUNTING?

Carbohydrate is the nutrient that most affects your child's blood sugar. Carbohydrates come in two forms: starch (complex carbohydrate) and sugar (simple carbohydrate). Starch is found in foods such as bread, cereal, grains, and vegetables. Sugar is found in fruit, milk, desserts, and candy.

- Foods that contain sugar have more total carbohydrates in a serving (standard portion) than foods that contain starch.
- Within 2 hours after eating any kind of carbohydrate, most of it has changed to blood sugar.
- Contrary to what you may have heard, your child can have foods that contain sugar, such as pies and cakes. Carbohydrate counting makes it easier to include these in your child's meal plan by swapping one serving for a serving of other carbohydrate food.

Carbohydrate counting is simply adding up the amount of carbohydrates in the foods your child eats each day. Spreading them throughout the day helps prevent high blood sugar after meals.

WHY COUNT CARBOHYDRATES?

Counting carbohydrates helps you know how many carbohydrates your child is eating during a meal, which provides a more accurate guess of how much his or her blood sugar will rise after a meal. The more carbohydrates he or she eats at one time, the higher his or her blood sugar level will rise. Carbohydrate counting also helps if:

- Your child takes insulin before meals and the doctor wants to vary the dose according to the amount of carbohydrate in the meal. Even if your child doesn't take insulin, counting carbohydrates will help keep his or her blood sugar levels within a safe range.

- The doctor has prescribed a fast-acting insulin for your child based on the amount of carbohydrates he or she plans to eat in a meal. (Often doctors suggest that a person take one unit of fast-acting insulin for every 10 to 15 grams of carbohydrates the person plans to eat.)
- Your child wants to eat a high-sugar food, such as a piece of birthday cake. You can substitute the piece of cake for a serving of other carbohydrate food in your child's meal plan.

Spreading your child's carbohydrates throughout the day will help keep his or her blood sugar levels within a safe range, preventing low or high blood sugar. Both low and high blood sugar levels can cause emergency situations. Over time, high blood sugar levels can damage many body tissues and organs.

HOW DO YOU COUNT CARBOHYDRATES?

Here are some ways to help you and your child count the carbohydrate content of his or her food and spread the amount throughout the day. Your child will have the best chance of success if you and other members of the family also eat a balanced diet. If your child has type 2 diabetes, an added benefit is that the whole family's risk for developing the disease will decrease.

ESTABLISH A MEAL PLAN

- Talk with a registered dietitian, who can plan the amount of carbohydrates to include in each meal and snack for your child.
- Learn what makes a standard portion of carbohydrate foods. Each serving size or standard portion contains about 15 grams of carbohydrates.
- Learn how to count either grams or servings of carbohydrates
- Learn the standard portions of foods that contain protein. Protein foods, such as meat and cheese, are an important part of a balanced diet.
- Limit fats, especially if your child is overweight. Talk with a registered dietitian about how much fat to include in your child's diet.

START COUNTING

- Use the meal plan to select food for your child's meals and snacks. Remember, high-sugar foods or sweets should be eaten only occasionally and in smaller servings than starches, fruits and milk.
- Serve standard portions. You don't have to weigh and measure your child's food; however, that may be helpful when you are first learning what makes up a standard portion.
- Check your child's blood sugar level often. If you check it 1 hour after a meal, you will be able to see how the food your child eats affects his or her blood sugar level.
- Record what your child eats and his or her blood sugar results in a diet record. Review the diet record with a diabetes educator or a registered dietitian at each regular visit and whenever you think the diet plan needs adjusting.

OTHER HELPFUL TIPS

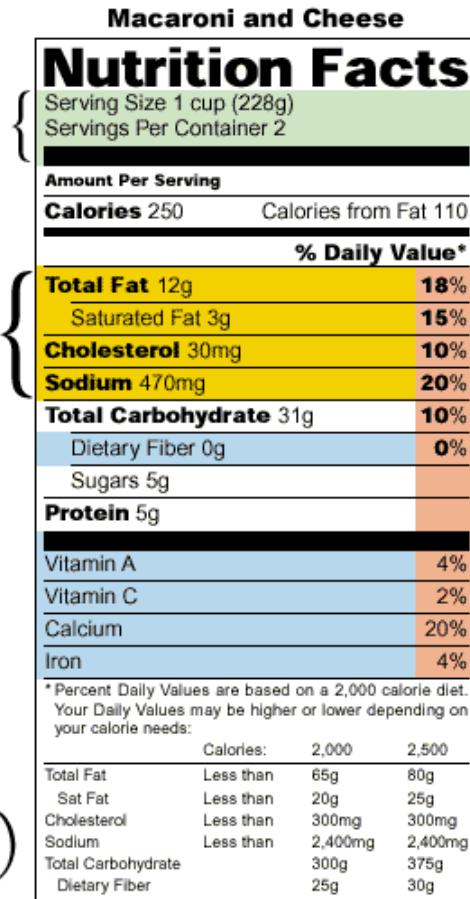
- Read food labels for carbohydrate content (see next page). Be careful to consider the serving size on the package.
- Get more help. The American Diabetes Association offers booklets that can help you learn how to count carbohydrates in your child's diet, measure and weigh food, and read food labels. See the Where to Go From Here section below for the address and phone number of the American Diabetes Association. You will still need to talk with a registered dietitian to establish a plan that fits your needs.

Check the serving size and the number of servings in the container.

Check the amount of fat, cholesterol, or sodium per serving in grams (g) or milligrams (mg).

Calculate the amount in your serving, and compare it to your daily limit.

$$\left(\begin{array}{ccc} \text{your} & \text{amount} & \text{amount} \\ \text{serving} & \times & \text{per} \\ & & \text{size} \end{array} \right) = \text{you} \\ \left(\begin{array}{c} \text{servings} \\ \text{per} \\ \text{serving} \end{array} \right) \quad \left(\begin{array}{c} \text{you} \\ \text{consume} \end{array} \right)$$



WHERE TO GO FROM HERE

- Now that you have read this information, you are ready to plan regular meals and snacks and calculate the amount of carbohydrate in your child's diet.
- Talk with your child's doctor or your certified diabetes educator (CDE).
- If you have questions about this information, take this packet with you and discuss it with the doctor or the CDE. You may want to mark areas or make notes in the margins of the pages where you have questions.
- If you and your child need help with carbohydrate counting or menu planning, ask to speak with a registered dietitian. If you have been keeping a diet diary for your child, take it with you when you visit the diabetes educator or registered dietitian.

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