

Living Well, Eating Well with Diabetes



Intermountain
Primary Children's Hospital
The Child First and Always®

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Living Well, Eating Well with Diabetes

Developed at Primary Children's Hospital

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This book is dedicated to all children and families who encounter diabetes in their lives. It was prepared with the support of the diabetes team and educators at Primary Children's Hospital.

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Chapter 1

Get What's Good in Your Food

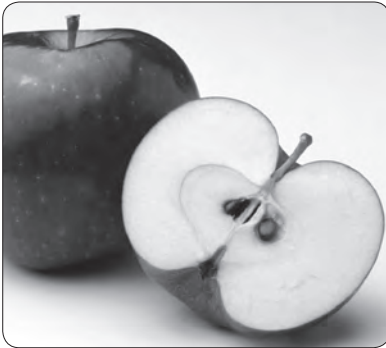


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Chapter 1

Get What's Good in Your Food



The dietitians want to help you understand that healthy eating, tasty food, and good diabetes management can happen together. The overall goal of good diabetes management is for your child to be as healthy as possible. Good nutrition is a large part of this goal. Now is a good time for you to look at your child's eating habits and help them make changes as needed. The information in this chapter will give you an idea of what makes up a healthy diet and how to help your child eat the right kinds of foods in a balance way.

This is what we will accomplish in this chapter:

- How to have a healthy nutrition and lifestyle with diabetes
- How to read the **Diabetes MyPlate**
- How carbohydrate, protein, and fat affect blood glucose levels
- Understanding the glycemic index to eat healthier



Healthy Nutrition and Lifestyle

Meal planning for children with diabetes is very different today than it used to be. Our goal is to help you fit the foods you usually eat into your diabetes management, rather than have you eat new foods. Just like any other child, you should be eating healthy balanced meals. Meal planning is more about serving sizes, timing, and a healthy nutrition with a variety of foods.

Nutrition is important for all of us. Food gives us the energy, vitamins, and minerals we need to grow, play, work, and stay healthy. Varying the foods we eat is the best way to make sure our bodies receive all

the nutrients we need. To help us eat a variety of foods in the right proportions, we can use **MyPlate**.

Using the Diabetes MyPlate

In diabetes education, we use a plate to model healthy eating and how this fits in with good diabetes management. This **MyPlate** may look different than others you may have seen because with diabetes, food groups are based on the amount of carbohydrates in foods.

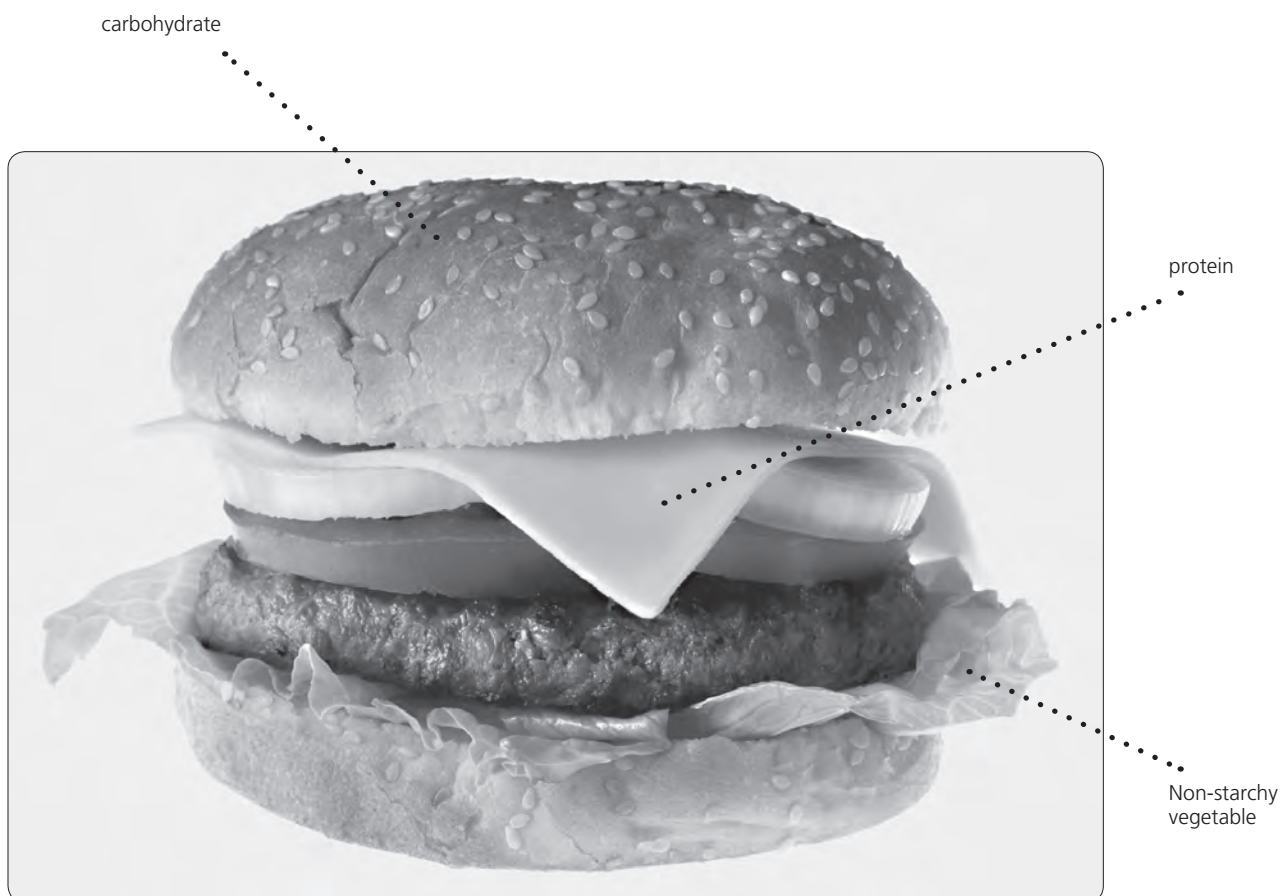


Detail of MyPlate

One of the differences with the diabetes **MyPlate** is that the vegetables are split between the vegetable and starch groups. We do this because certain vegetables, like corn, potatoes, and peas have a fair amount of carbohydrates and are included with the starches. Other vegetables like lettuce, tomatoes, broccoli, cabbage, and green beans contain very little carbohydrate and are considered a very low-carbohydrate.

As you look at the **MyPlate**, you will notice that some food groups have a *dark blue* background and others have a *light blue* background. The groups that are *dark blue* are food groups that contain enough carbohydrate to have significant effects on the blood glucose levels. The groups that are light blue are food groups that contain very little carbohydrates and have very little or no effect on the blood glucose levels.

Take some time to look at the diabetes **MyPlate** on the next page. We have also included a blank diabetes **MyPlate** so you and your child can draw his or her favorite foods into each of the groups.



The Diabetes MyPlate

Sweets-Desserts



Fats

Water



Milk



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Carbohydrate



Non Carbohydrate

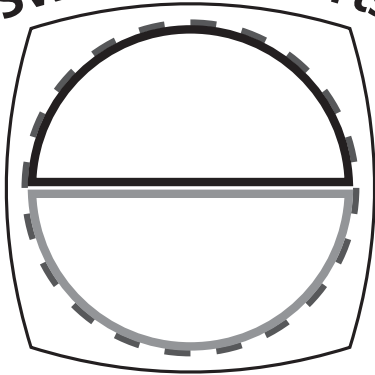


Foods to eat sparingly



The Diabetes MyPlate

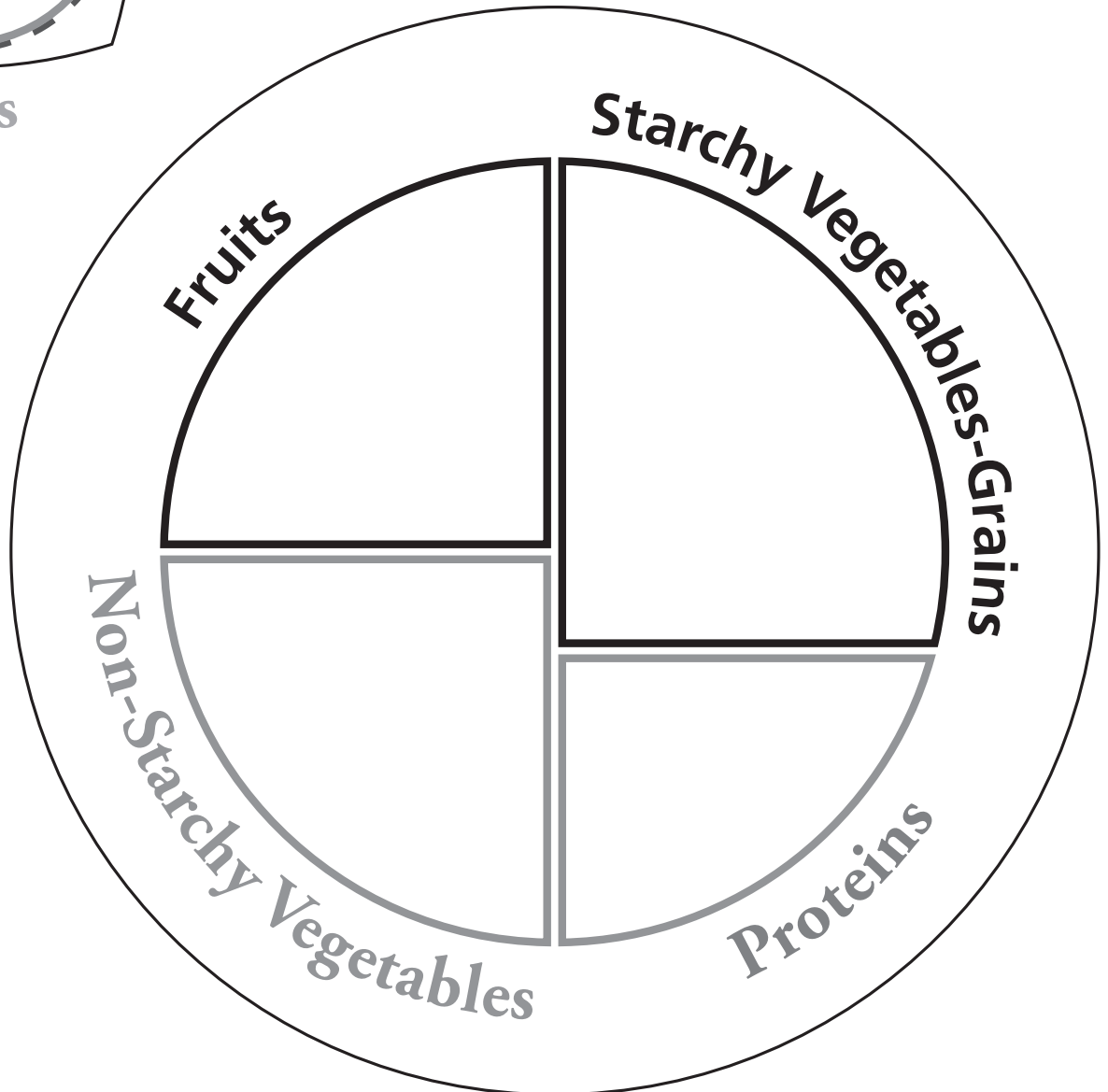
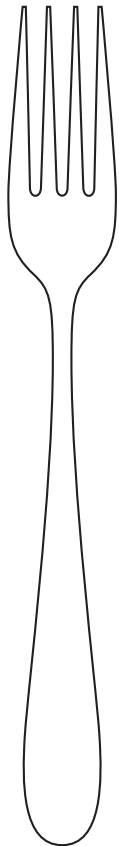
Sweets-Desserts



Fats

Water

Milk



Carbohydrate



Non Carbohydrate

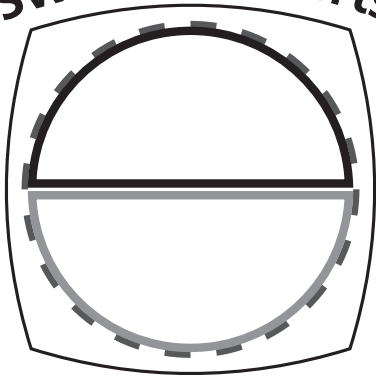


Foods to eat sparingly

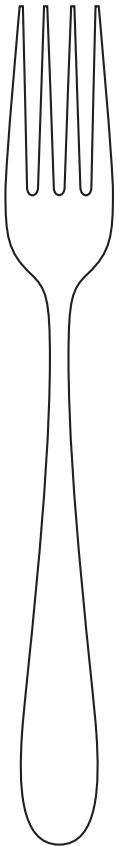


The Diabetes MyPlate

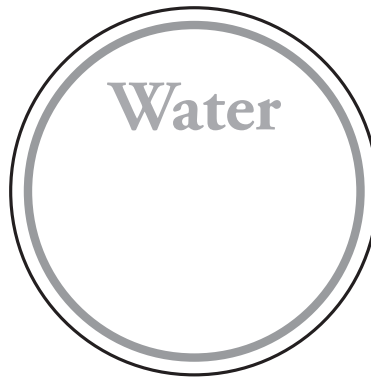
Sweets-Desserts



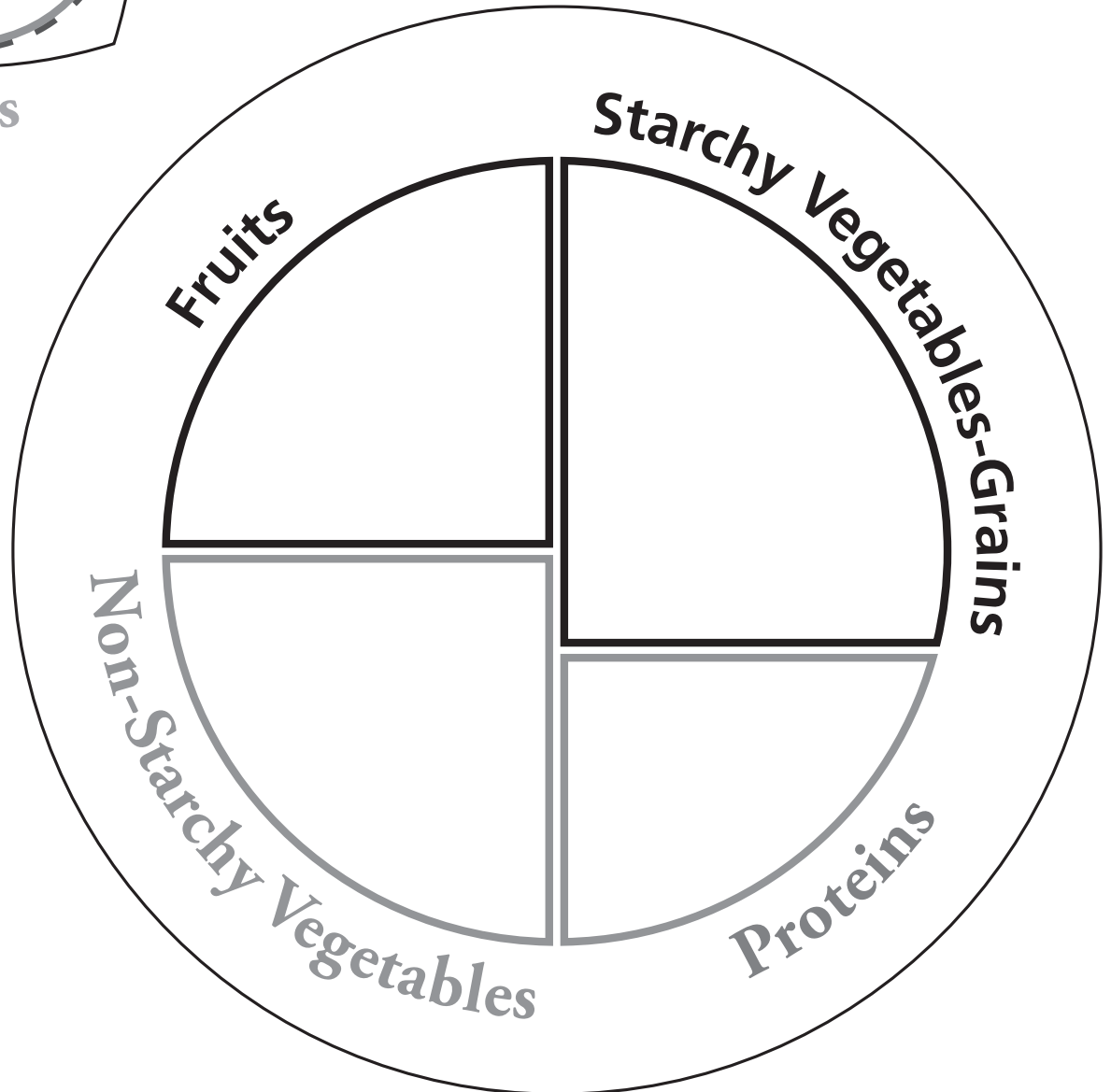
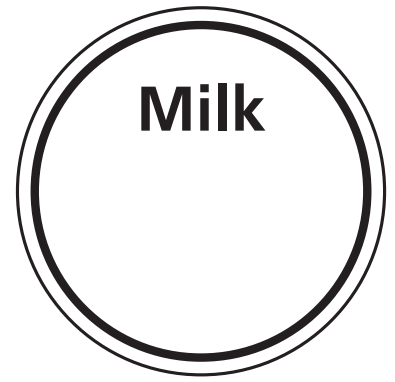
Fats



Water



Milk



Carbohydrate



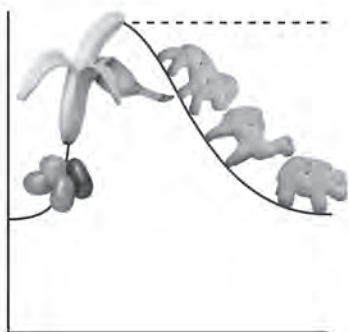
Non Carbohydrate



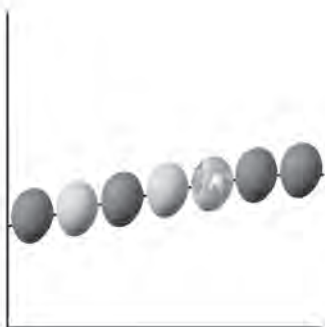
Foods to eat sparingly



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Carbohydrates make your blood sugar go up.



Proteins help keep your blood sugar stable for a longer time.



Fats help keep blood sugar stable for a longer time.

How Carbohydrates, Proteins and Fats Affect Blood Glucose

Carbohydrates, proteins, and fats are the three nutrients in food that provide energy. Each affects your blood sugar differently. Foods containing carbohydrates have the greatest effect on blood sugar. Most of the glucose (sugar) in the bloodstream comes directly from your body breaking down carbohydrates, especially right after eating. Only a small part of the protein and fat we eat is eventually changed to glucose. You will see that the nutritional part of diabetes management is mostly about knowing how many carbohydrates your child eats, and balancing that with the correct amount of insulin.

Carbohydrate is a broad term used to describe all types of sugar found in foods. Carbohydrates are found in breads, cereals, starchy vegetables, pasta, fruits, milk and sweets—see the **Diabetes MyPlate** and Chapter 5: *Think Fast and Eat Well* for specific foods. This group turns into glucose the fastest and will raise your child's blood sugar anywhere from 15 minutes to 2 hours after he or she eats.

Protein is found in meats, nuts, eggs, milk, cheese, and beans. Protein gives our bodies energy, helping us grow, heal, build muscles, and stay healthy. For good health, it is important to have protein at each meal and with a bedtime snack. Proteins affect blood sugar much later than carbohydrates. Because proteins don't affect blood sugar as quickly as carbohydrates, you don't have to measure these foods. However, you should be careful in controlling portion sizes of protein foods, especially high-fat sources of protein, to maintain a healthy heart.

Fats are found in oils, butter, margarine, nuts, meats and snack foods like chips and french fries. See healthy versus unhealthy fats on page 5.31.

It is also important not to eat too much fat in order to maintain a healthy heart. Because fats don't affect blood sugar as quickly as carbohydrates, you don't have to measure these foods.

Since protein and fat both affect blood glucose stability, it is important for you to eat mixed meals and snacks as much as possible. A combination food or mixed meal is defined as carbohydrate plus protein or fat. This is especially important for you with bedtime snacks.

Remember there are carbohydrates in almost every food. The amount of carbohydrate is what matters for diabetes meal planning. Remember that all foods have calories. Moderation and a balance of protein, carbohydrate, and fat is what matters for your nutritional well being.



DIET

The dietitians at PCH usually refer to nutrition, not "diet." When they do say "diet," they mean a balanced diet, not an eating habit that cuts out calories, fat, or some other food item.

Each time you come to the diabetes clinic, we will look at many things to make sure your child is healthy and growing appropriately. The team will probably measure your child’s blood pressure and weight at each clinic visit. They should also do a blood test every few years to measure your child’s cholesterol starting at adolescence or sooner with a family history of heart disease. If you have a family member with high blood pressure or cholesterol, you may need to watch your child’s fat intake more closely.

Just to give you an idea of how many calories and grams of carbohydrate are generally recommended for your child, we have included the chart on this page. Remember that this is a general recommendation. It is normal and healthy for a child’s intake to vary from day to day, based on how hungry he or she is.

Age	Calorie Level / Day	Average Grams of Carbohydrate / Meal
0 – 1 years	900	20 – 40
1 – 2 years	1000	30 – 50
3 – 5 years	1300	40 – 60
6 – 7 years	1600 – 1800	45 – 75
8 – 9 years	1800 – 2000	60 – 90
10 – 12 years	2000 – 2200	75 – 120
Girls 13 – 19 years	2000 – 2200	60 – 100
Active girls 13 – 19 years	2200 – 2500	75 – 120
Boys 13 – 15 years	2200 – 2500	75 – 120
Boys 15 – 19 years	2500 – 2800	90 – 120
Active boys 15 – 19 years	2900 – 3000	100 – 150
Very active boys 15 – 19 years	3000 – 3100	120 – 170
Super active boys 15 – 19	3100 – 3300	120 – 190



Understanding the Glycemic Index

After you feel comfortable with being able to count carbohydrates in foods, you may want to go a step further and look at how different types of carbohydrate-containing foods affect blood glucose levels. Let us explain why this can be helpful for both optimal blood glucose control and for good health. It has been observed that different types of foods containing carbohydrate can affect blood glucose levels differently. The differences come in how fast they affect the blood glucose levels and how high the blood glucose levels go after eating. A slower and more gradual rise in blood glucose levels after a meal or snack is healthier for the body, especially for people with diabetes. So how can meals be planned to make an overall low glycemic effect on the blood glucose levels? It starts with looking at the individual foods that make up a meal and the combination of these different foods. In order to talk about individual foods, we need to talk about the “glycemic index.”

You may have heard of the glycemic index before. When people started to notice that different foods could affect blood glucose levels differently, they started to study individual foods to find out these individual effects and keep track of these effects. Foods that were studied and found to affect the blood glucose levels very quickly and cause a high peak in blood glucose levels were labeled “high glycemic index” foods. Foods that were studied and found to affect the blood glucose levels very slowly and cause a low extended peak in blood glucose levels were labeled “low glycemic index” foods. The information from these studies was put into lists that rate different foods on a number scale. The foods rated with lower numbers are considered lower glycemic index and the foods rated with higher numbers are considered higher glycemic index.

So, does this mean that you should avoid all foods that are higher on the glycemic index and plan meals only made up of low glycemic index foods? No, this is not necessary. It is all about using the glycemic index to plan overall healthier meals for your family. This involves planning meals or snacks that are not made up of all high glycemic index foods. A mix of the low and the high glycemic index foods in a meal will help the overall effect of the meal on blood glucose levels to be slower and have a lower peak. There are a couple of approaches to use to plan meals this way. You can obtain lists of the glycemic index of foods and plan meals using this as a reference, or if you want to keep it at a more simple level, you can follow some basic principles:



- Choose whole grain and higher-fiber breads, cereals, and other foods from the starch group over the “whiter,” lower-fiber options (e.g., brown rice over white rice, shredded wheat over corn flakes).



- Include protein with meals and snacks (healthy sources of protein include lean meat choices, cheeses, eggs, and foods considered good sources of both carbohydrate and protein like beans, yogurt, and milk).
- Limit highly-processed snack foods and desserts including foods such as potato chips or corn chips, crackers, cookies and candy.
- Avoid overcooking foods such as pasta, potatoes, or vegetables.
- Choose fresh fruits and vegetables over canned or processed fruits and vegetables (e.g., a whole apple over applesauce).

Do these principles sound familiar? Many of the healthy eating principles that have already been encouraged for years are also principles that help you follow a low glycemic index diet. Our recommendation in using these principles is to use them along with the other nutritional principles you have been taught to plan a healthy diet for your family.



Chapter 2

Choose and Balance Your Way



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Chapter 2

Choose and Balance Your Way



In this chapter we will discuss the basics of counting carbohydrates in the food you eat. We understand that this may be a pretty new skill for you and will take a lot of practice. We want to provide you with the information and resources to give you a good start.

We will talk about:

- Using measuring cups / spoons, food scales, and estimating portion sizes from commonly used items
- Reading food labels
- Analyzing recipes
- Using other resources, including books and computer programs

Carbohydrate Counting

Part of diabetes nutrition management is knowing how to balance the food you eat with the insulin you take. Since carbohydrate is the nutrient in food that most significantly affects your blood glucose levels, you will need to be aware of how much carbohydrate is in your meals or snacks in order to balance the food and insulin correctly. This is where carbohydrate counting comes in. Counting carbohydrates is just how it sounds. It means that you figure the amount of carbohydrate in the meal or snack that you are eating, using a number of different resources which we will review later on. In resource books and on food labels, carbohydrate is referred to in “grams.” A “gram” is the unit of weight that carbohydrate is measured in.

How to Measure Portion Sizes

A good place to start in learning about how to count the carbohydrates in foods is to learn about servings and portion sizes. As you look up foods in different carb-counting resources, the amount of carbohydrate in the food item will be listed for a specific serving or portion of that food. This does not mean that your child is limited to eating only that portion but it will be important for you to know exactly how much he or she is eating in order to determine the carbohydrate amount in what your child is eating.



1 small apple or



1/2 cup noodles or



1 slice of bread = 15 grams of carbohydrate





Measure foods that are difficult to put into serving sizes

There are several “tools” that we encourage you to use to figure the portion size of the foods your child is eating. These include the following:

- Measuring cups or measuring spoons
- Food scales
- Objects that are familiar to you and your child that can be used to estimate portion sizes when measuring cups or a food scale are not available (e.g., tennis balls, deck of cards, dice)

Measuring cups or spoons are most often used for foods like cereals, pasta, rice, cooked vegetables or beans, mashed potatoes, beverages, casseroles, puddings, etc.



Food scales are most often used to figure the portion sizes for foods such as fresh fruit, baked potatoes, and baked goods such as cookies, brownies, cake, homemade rolls or bread. We have included in this section a quick reference list for weighing foods to help you know what foods are most helpful to weigh. Food scales can usually be purchased at larger super stores that have a good selection of household appliances and specialty kitchen stores. We would recommend purchasing a digital scale since these are more accurate and easier to use.



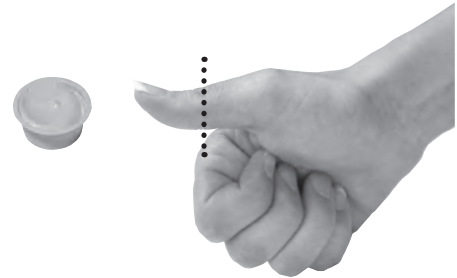


Sizing Up Your Servings

Measuring portions is the most accurate way to know how much you're eating. Estimating serving sizes using the following chart is a quick and easy way to know when measuring is inconvenient.



1 serving ($\frac{1}{2}$ cup) of mashed potatoes or broccoli is about the size of your child's fist.



1 teaspoon of butter or peanut butter is about the size of the tip of your thumb.



A small fruit is about the size of a tennis ball.



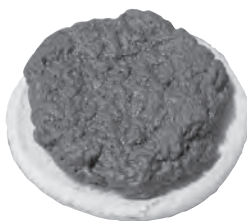
1 ounce of small candies or nuts equals one handful.



1 ounce of cheese is about the size of 4 stacked dice.



$\frac{1}{2}$ cup of ice cream is about the size of a racquetball.



3 ounces of meat is about the size and thickness of a deck of playing cards.

Quick Reference List for Weighing Foods

The following chart includes some foods that kids and teenagers eat that you can weigh on a food scale to figure the portion sizes and carbohydrate amounts.

Common Foods	Serving Size	Carbohydrate Grams
Bread	1 oz.	15
Roll	1 oz.	15
Potatoes (cooked)	1 oz.	8
French fries	1 oz.	10
Apple	1 oz.	3.75
Bagel	1 oz.	17
Baked pretzel	1 oz.	15
Pizza	1 oz.	10

Occasional Foods	Serving Size	Carbohydrate Grams
Pancakes	1 oz.	10
Muffin	1 oz.	15
Cake – angel food	1 oz.	17
Cake – regular	1 oz.	20
Cake – with frosting	1 oz.	20
Brownie	1 oz.	20
Cookies	1 oz.	20
Donut – glazed and cake	1 oz.	15





Quick Guide for Carbohydrate Counting

As you start learning how to count carbohydrates, it will be helpful to start memorizing the amounts of carbohydrate in average servings of different food items. This list will help you get started.

Food	Serving Size	Carbohydrate Grams	Food	Serving Size	Carbohydrate Grams
Starch group			Protein group		
Cooked rice	½ cup	20	Cooked beef, fish, ...	3 oz.	0
Cooked pasta	½ cup	20	poultry, pork		
Bread	1 slice	15	Cheese	1 oz.	0
Hamburger or hot	1 whole	25	Cottage cheese	½ cup.	5
dog bun			Peanut butter	2 Tbsp.	5
Cold cereal	1 cup	25 – 45	Peanut butter (reduced fat)	2 Tbsp.	15
Oatmeal.	1 cup (cooked).	25	Eggs	1	0
Flour tortilla	1 (8")	30	Fat group		
Corn tortilla	1 (6")	15	Butter, margarine, ...	1 Tbsp.	0
Bagel	1 whole	60 – 75	mayonnaise, oil, shortening		
Crackers	10 – 12.	15	Miracle Whip	1 Tbsp.	2
Pancake	1 (4")	10	Salad dressings (regular).	1 Tbsp.	2
Baked potato	1 small.	40	Salad dressings (light)	2 Tbsp.	10
“Starchy” vegetables	½ cup cooked	15	Sour cream (regular).	2 Tbsp.	0
(corn, peas, potatoes)			Sour cream (light)	2 Tbsp.	2
Cooked beans.	½ cup cooked	20	Gravy	¼ cup	4
(kidney, black, pinto, red, white)			Sweets group		
Fruit group			Ice cream	½ cup	15 – 20
Apple	1 medium	25	Cookies	1 small.	20 – 25
Banana	1 medium	30	(varies based on the type)		
Orange	1 medium	20	Brownies	1 small.	30 – 35
Peach	1 medium	15	(varies based on the type)		
Strawberries	1 cup	12	Cake with frosting	2" square	35 – 40
Melon.	1 cup	15	Muffin (homemade)	1 small (cupcake size).	35 – 40
Fruit cup	½ cup	15	Muffin (store-bought)	1 medium	45 – 60
Fruit juice	½ cup	15	Donut (cake, iced)	1 medium	60 – 75
Milk group			Donut (glazed, iced)	1 medium	30 – 45
Milk (skim, 1%, 2%, ...	1 cup	12	Jelly beans	8	15
whole)			Candy bar	1 regular size	35 – 40
Flavored milk.	1 cup	28	Hard candy	1 piece.	5
Yogurt	.8 oz.	30	Chocolate kisses	1 piece	3
Yogurt (light).	.8 oz.	20	Licorice	1 piece.	7
Vegetable group			Condiments/sauces		
“Watery-type”vegetables.	1 cup raw.	5	Ketchup.	1 Tbsp.	4
(broccoli, cauliflower, lettuce, cucumbers, etc.)			Mustard.	1 tsp.	0
Carrots	1 cup raw.	5	Honey mustard	2 Tbsp.	8
Cooked carrots, ...	½ cup	5	Fry sauce	2 Tbsp.	8
greenbeans, or spinach			BBQ sauce	1 Tbsp.	2
Tomato or vegetable juice	1 cup	10	Soy sauce	1 tsp.	0
			Spaghetti sauce.	½ cup	12-14
			Steak sauce	1 Tbsp.	4
			Sweet & sour sauce.	1 Tbsp.	4 – 7



How to Read a Food Label

Have you ever looked at a food label? What were you looking for? Calories or fat? In diabetes management, we mainly concentrate on the amount of carbohydrate found in foods, as you know. Remember that carbohydrates will raise your blood sugar the most. Here are 3 steps you can follow when reading a food label:

Spaghettios®

Nutrition Facts		Amount/Serving	%DV*	Amount/Serving	%DV*
Serving Size 1 cup (262g)		Total Fat 6g	9%	Sodium 600mg	25%
Servings about 2		Sat. Fat 2.5g	13%	Potassium 330mg	9%
Calories 220		Trans Fat 0g		Total Carb. 30g	10%
Fat Cal. 50		Polyunsat. Fat 1g		Fiber 3g	12%
		Monounsat. Fat 2.5g		Sugars 10g	
		Cholest. 20mg	7%	Protein 11g	15%
*Percent Daily Values (DV) are based on a diet of 2,000 calories.		Vitamin A 10% • Vitamin C 10% • Calcium 4% Iron 10% • Thiamin 10% • Riboflavin 15% Niacin 10% • Folate 15%			

1. Determine the serving size. The serving size for any packaged food may be different from the serving sizes you learned about earlier. For the Spaghettios® label to the left, the serving size is 1 cup. Be careful to notice that there are 2 servings in this product so the whole can actually contains 2 cups.
2. Determine the grams of carbohydrate per serving by looking at the "Total Carb" listing on the food label. This is what will tell you the amount of carbohydrate per serving as listed at the top of the label. There are 30 grams of carbohydrate in 1 cup. Also, keep in mind that if you only eat ½ cup, you've eaten 15 grams of carbohydrate; and if you eat 2 cups (the whole can), you've eaten 60 grams of carbohydrate.
3. What do you do with this information? You will now figure the dose of insulin that is needed for your meal or snack based on the insulin to carbohydrate ratio that has been prescribed to you by your doctor. So, if you eat one cup (½ can) of Spaghettios and your insulin to carbohydrate ratio is 1:15 or 1 unit per 15 grams of carbohydrate, you will take 2 units of insulin for that meal.



This is a beverage you would not want to choose. Can you see why it is not a good idea to choose this beverage?



You do not need to subtract dietary fiber or sugars from the total carbohydrates. When looking at products, healthier products typically have more dietary fiber and less sugar. Sugar alcohols may be found in sugar free food products. If a food has a high amount of sugar alcohol (over 10 g of sugar alcohols per serving), it is recommended to subtract half the total sugar alcohol amount from the total carbohydrate amount in matching your insulin dose to your food. This will help in avoiding low blood glucose levels after eating high-sugar alcohol products. It is not necessary to subtract the sugar alcohol for lower-sugar alcohols foods (under 10 grams of sugar alcohols per serving.) More information on sugar alcohols can be found in chapter 6.

PRACTICE WHAT YOU HAVE
LEARNED USING THE FOOD
LABELS ON THE NEXT PAGE.



Sample food labels for practice

Which of these would not be the healthiest choice?



Wheat Chex®

Nutrition Facts

Serving Size ¾ cup (47g)
Servings Per Container about 13

Amount Per Serving	Wheat Chex	with 1/2 cup skim milk
Calories	180	220
Calories from Fat	10	10
% Daily Value**		
Total Fat 1g*	2%	2%
Saturated Fat 0g	0%	0%
Polyunsaturated Fat 0g		
Monounsaturated Fat 0g		
Cholesterol 0mg	0%	1%
Sodium 420mg	18%	20%
Potassium 190mg	6%	11%
Total Carbohydrate 38g	13%	15%
Dietary Fiber 5g	22%	22%
Soluble Fiber 1g		
Sugars 5g		
Other Carbohydrate 30g		
Protein 5g		

Vitamin A	10%	15%
Vitamin C	10%	10%
Calcium	10%	25%
Iron	80%	80%
Vitamin D	10%	25%
Thiamin	25%	30%
Riboflavin	25%	35%
Niacin	25%	25%
Vitamin B6	25%	25%
Folic Acid	100%	100%
Vitamin B12	25%	35%
Phosphorus	15%	30%
Magnesium	10%	15%
Zinc	25%	30%
Copper	8%	8%

*Amount in Cereal. A serving of cereal plus skim milk provides 1.5g total fat, less than 5mg cholesterol, 480mg sodium, 400mg potassium, 46g total carbohydrate (11g sugars) and 9g protein.

**Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Potassium	3,500mg	3,500mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Pasta

Nutrition Facts

Serving Size 2oz. (58g or 1 cup) Dry
Servings Per Container 11

Amount Per Serving	Calories from Fat 25
Calories 220	
% Daily Values*	
Total Fat 2.5g	4%
Saturated Fat 1g	5%
Polyunsaturated Fat 0.5g	
Monounsaturated Fat 0g	
Cholesterol 70mg	23%
Sodium 15mg **	1%
Total Carbohydrate 38g	13%
Dietary Fiber 2g	8%
Sugars 2g	

Protein 10g	
Iron 10%	* Thiamin 30%
Riboflavin 10%	* Niacin 15%
Folic Acid 30%	

Not a significant source of vitamin A, vitamin C, and calcium.

*Percents Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat. Fat	Less than 20g	25g
Cholest.	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carb.	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 * Carbohydrate 4 * Protein 4

Ingredients: Durum Semolina, Durum Flour, Eggs, Ferrous Sulfate, Niacin, Thiamin Mononitrate, Riboflavin, Folic Acid.

**Without added salt in cooking water.

Chocolate milk

Nutrition Facts

Serving Size 1 cup (240 mL)
Servings Per Container About 2

Amount Per Serving	
Calories 200	Calories from Fat 50
% Daily Value (DV)*	
Total Fat 5 g	8%
Saturated Fat 3 g	15%
Cholesterol 15 mg	6%
Sodium 150 mg	6%
Total Carbohydrate 32 g	11%
Dietary Fiber < 1 g	3%
Sugars 30 g	
Protein 8 g	
Vitamin A 10% • Vitamin C 2%	
Calcium 40% • Iron 2% • Vitamin D 25%	

*Percent Daily Values are based on a 2000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2000	2,500
Total Fat	Less than 65 g	80 g
Sat Fat	Less than 20 g	25 g
Cholesterol	Less than 300 g	300 g
Sodium	Less than 2,400 mg	2,400 mg
Total Carbohydrate	300 g	375 g
Dietary Fiber	25 g	30 g

Snickers Charger® candy bar

NOT RECOMMENDED FOR CHILDREN, PREGNANT WOMEN OR PEOPLE SENSITIVE TO CAFFEINE

Nutrition Facts Serv size: 1 bar, Amount per serving: **Calories 250**, Fat Cal. 110, **Total Fat 3g** (20% DV), Sat. Fat 5g (25% DV), Trans Fat 0g, **Cholest.** 5mg (2% DV), **Sodium 120mg** (5% DV), **Total Carb.** 31g (10% DV), Fiber 1g (4% DV), Sugars 25g, **Protein 4g**, Vitamin A (0% DV), Vitamin C (0% DV), Calcium (4% DV), Iron (2% DV), Vitamin B6 (10% DV), Vitamin B12 (10% DV), Biotin (10% DV), Panto. Acid (10% DV). Percent Daily Values (DV) are based on a 2,000 calorie diet.

CAFFEINE 60mg TAURINE 250mg



Macaroni and cheese

Nutrition Facts

Serving Size 2.5 oz (71g)
About 1 cup prepared
Servings About 2.5

Amount Per Serving	Mix	As Prepared
Calories	260	270
Fat Cal.	35	35

% Daily Value**

Total Fat 3.5g*	5%	6%
Sat. Fat 2g	10%	10%
Trans Fat 0g		
Cholest. 10mg	3%	3%
Sodium 670mg	28%	28%
Total Carb. 46g	15%	16%
Fiber 2g	8%	8%
Sugars 4g		
Protein 10g	11%	13%
Vitamin A	2%	4%
Vitamin C	0%	0%
Calcium	10%	15%
Iron	6%	6%
Thiamin (Vit. B ₁)	10%	10%
Folic Acid	10%	10%

* Amount in Mix. Prepared with 1/4 cup lowfat milk adds 10 calories, 0.5g total fat, 10mg sodium, 2g total carb. (2g sugars), 1g protein.

**Percent Daily Values (DV) are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat. Fat	Less than 20g	25g
Cholest.	Less than 300mg	300mg
Sodium	Less than 2,400mg	2,400mg
Total Carb.	300g	375g
Fiber	25g	30g
Protein	50g	65g

BEST INGREDIENTS:

ORGANIC SEMOLINA PASTA SHELLS FROM DURUM WHEAT, ORGANIC CHEDDAR CHEESE (ORGANIC CULTURED PASTEURIZED MILK, SALT, NON-ANIMAL ENZYMES), ORGANIC WHEY, SALT, NATURAL SODIUM PHOSPHATE, ORGANIC GARLIC, ORGANIC BASIL.

CONTAINS MILK AND WHEAT INGREDIENTS.

MADE ON SHARED EQUIPMENT THAT ALSO PROCESSES EGGS AND SOY.

Chocolate-flavored pudding

Nutrition Facts

Serving Size 3 tbsp (28g) = 1/2 cup
Servings Per Container 4

Amount Per Serving	Mix	Prepared w/2% milk
Calories	110	170
Calories from Fat	10	30

% Daily Values**

Total Fat 1g*	1%	5%
Saturated Fat .5g	1%	8%
Cholesterol 0mg	0%	3%
Sodium 400mg	17%	19%
Total Carbohydrate 25g	8%	10%
Dietary Fiber 0g	0%	0%
Sugars 20g		
Protein 0g		
Vitamin A	0%	4%
Vitamin C	0%	2%
Calcium	0%	15%
Iron	4%	4%

*Amount in Mix

**Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories: 2,000	2,500
Total Fat	Less Than 65g	80g
Sat Fat	Less Than 20g	25g
Cholesterol	Less Than 300mg	300mg
Sodium	Less Than 2,400mg	2,400mg
Total Carbohydrates	300g	375g
Dietary Fiber	25g	30g

Calories per gram:

Fat 9 • Carbohydrate 4 • Protein 4

INGREDIENTS: Sugar, Food Starch-Modified, Cocoa Processed with Alkali, Dextrose, Sodium Phosphates (for Proper Set), Nonfat Dry Milk, Salt, Partially Hydrogenated Soybean Oil with BHA (Preservative), Di- and Mono (Prevent Foaming), Red #40, Yellow #5, Blue #1, Natural and Artificial Flavor.

Dried apricots

Nutrition Facts

Serving Size 40g (~1.4 oz.)
(Approx. 11.4 Servings / Pound)

Amount Per Serving	
Calories 120	Calories From Fat 0
	% Daily Value *
Total Fat 0g	0%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 10mg	0%
Total Carbohydrate 29g	10%
Dietary Fiber 4g	16%
Sugars 15g	
Protein 1g	
Vitamin A	2%
Calcium	4%
Vitamin C	2%
Iron	6%

** Contains less than 2 percent of the Daily Value of these nutrients.

* Percent Daily Values are based on a 2,000 calorie diet.



Recipe Analysis

You may soon discover that it can be hard to count carbohydrates in meals that are prepared from recipes. But we do not want you to be discouraged from cooking homemade dishes, especially because they can often be much healthier for your family. So here are some ideas on counting up the carbohydrate amounts in recipes.

The most accurate way to count the carbohydrates in a recipe is to analyze a recipe. The steps of analyzing a recipe for carbohydrate content are as follows:

1. Figure the carbohydrate content of the total amount of each ingredient in the recipe.
2. Add up the total carbohydrate content for all the ingredients in the recipe.
3. Divide this total of carbohydrate by the number of servings that will come from the recipe.

Here's an example



No Bake Energy Bites

- 1 cup old fashioned oats
- ½ cup peanut butter, low-sodium
- ⅓ cup raw pumpkin seeds or sunflower seeds, raw, unsalted
- ⅓ cup toasted unsweetened coconut flakes
- 3 tablespoon semi-sweet chocolate chips
- ⅓ cup honey
- 1 teaspoon vanilla
- ¼ teaspoon sea salt

PREPARATION:

1. Mix all ingredients together in a medium bowl.
2. Let chill in the refrigerator for 30 minutes.
3. Once chilled, roll into balls (1 inch diameter).
4. Store in an airtight container and keep refrigerated (up to one week).
5. Enjoy throughout the week!

One serving is two Energy Bites or two 1 ounce balls.

Total Calories: 250 cal

Total Carbohydrate: 25 g

Total Fat: 15 g

Dietary Fiber: 3 g

Saturated Fat: 4.5 g

Sodium: 110 mg

Protein: 8 g





Carbohydrate Counting Practice – Sample Menus and Worksheets

In order to practice counting carbohydrates, we have included some sample menus. We have also included some worksheets for you to record what you eat and the amount of carbohydrate in these foods. As you do the food records, remember to record the portion size, using measuring cups and a food scale as needed.

To determine the amount of carbohydrate in a food, it is best to use the food label whenever you can. Some foods do not have a food label or the food label will not be available to you. In either case, you can estimate the carbohydrate content using the food lists we have included in Chapter 5: *Think Fast and Eat Well, Nutrition in the Fast Lane* book, or a carbohydrate-counting book from a bookstore.

Now is a good time to get lots of practice with measuring and weighing foods, along with looking up foods in food lists or carbohydrate-counting books, as needed. Pretty soon, there will be many foods that you will have memorized and carbohydrate counting will get a little easier for you.

We have put together some sample menus for you to use in practicing your carbohydrate counting skills. We understand that these examples may not represent what you or your family eats at these special occasions, but it can still be helpful to use these examples for extra practice.

Select the foods your child is likely to eat



Thanksgiving Dinner

Turkey (3 oz. serving) Grams of carbohydrate = __
 Mashed potatoes (½ cup serving) Grams of carbohydrate = __
 Stuffing (½ cup serving) Grams of carbohydrate = __
 Whole wheat roll (1 small) Grams of carbohydrate = __
 Green beans Grams of carbohydrate = __
 with cream of mushroom soup (½ cup serving)
 Pumpkin pie (1 small slice) Grams of carbohydrate = __

Total Carbohydrates = ____





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.....

Summer Barbecue or Picnic

Hamburger on whole wheat bun Grams of carbohydrate = __
(1 whole)

Select one or two: potato chips, potato salad
or baked beans

Potato chips (15 – 20 chips) Grams of carbohydrate = __

Potato salad (½ cup serving) Grams of carbohydrate = __

Baked beans (½ cup serving) Grams of carbohydrate = __

Fresh fruit salad (½ cup serving). Grams of carbohydrate = __

Root beer float. Grams of carbohydrate = __
(12 oz. diet root diet beer + ½ cup
vanilla ice cream)

Total Carbohydrates = ____



.....

Birthday Party

Hot dog with whole wheat bun. Grams of carbohydrate = __
(1 whole)

Potato chips (1 small package, 1 oz.) . . Grams of carbohydrate = __

Fresh fruit salad (½ cup serving). Grams of carbohydrate = __

½ cup of raw carrots Grams of carbohydrate = __

Chocolate cake with frosting (2" square) Grams of carbohydrate = __

Ice cream (½ cup). Grams of carbohydrate = __

Total Carbohydrates = ____



If you are having difficulty figuring out the carbohydrate amounts for some of these foods, please ask the dietitian who has been working with you for help. Our goal is to help reduce the stress associated with counting carbohydrates on special occasions so that you can enjoy the time with family and friends as much as possible. Do your best with counting carbohydrates as accurately as possible and recognize that it is usual for blood glucose levels to run a little higher on holidays and special occasions. This will not cause damage to your child and the levels will usually come down to normal in the next day or two.

Carbohydrate Counting Worksheet

Name _____		Date food was eaten _____	
Meal time _____			
Breakfast: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
AM snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:
Lunch: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
PM snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:
Dinner: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
Bed snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:



Carbohydrate Counting Worksheet

Name _____		Date food was eaten _____	
Meal time _____			
Breakfast: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
AM snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:
Lunch: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
PM snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:
Dinner: Food eaten	Amount	CHO Grams	Insulin
		Total for meal:	Units needed:
Bed snack: Food eaten	Amount	CHO Grams	Insulin
		Total for snack:	Units needed:



Chapter 3

Eat Smart in the Real World



Candy	.3.2
Eating at Preschool or Daycare	.3.3
Eating Out	.3.4
Holidays, Birthdays, and Celebrations	.3.5
Picky Eaters.	.3.6
Real Life Schedules	.3.7
School Lunch.	.3.8
Sleepovers	.3.9
Sports and Activities	.3.10
Teen Life	.3.11



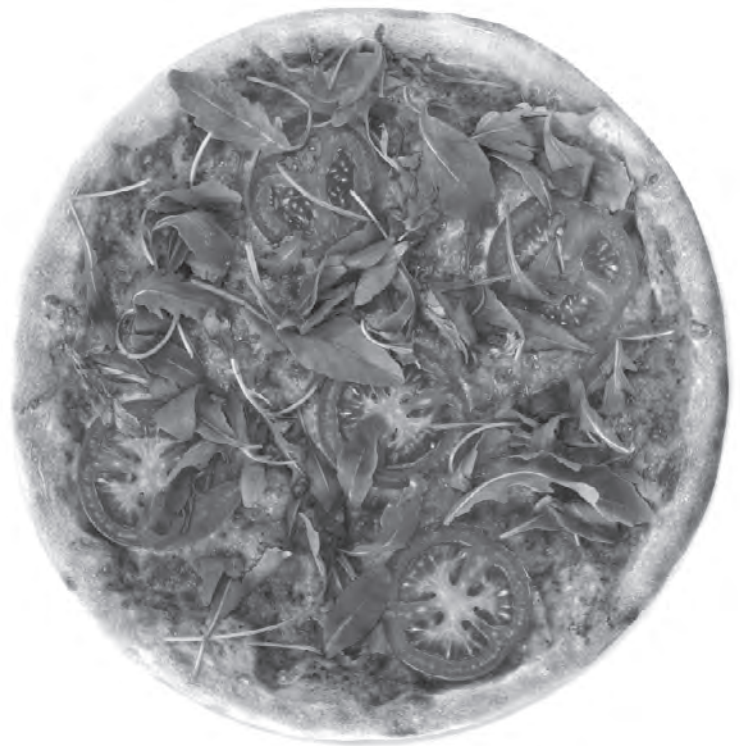
Chapter 3

Eat Smart in the Real World

Be sure the dietitian takes a few minutes to answer any questions you might have from Chapter 1 and 2. During this chapter, the dietitian will spend some time reviewing real life stories. You and your child don't have to complete all the situations; only those you feel are appropriate for your child.

This is what we will accomplish in this chapter:

- Discuss a few situations appropriate to you and your child's schedule.
- Write down practical things you and your child can do to make sure good eating habits develop.
- Discuss any other situations your family might have that would make good nutrition challenging.



Candy

Cody’s day care seems to have at least one project per week where the kids make candy or other sweet treats. Jenny walks past the convenience store each day on the way home from school. Jason is selling candy bars to raise money for his school choir. Rachel likes to get a sweet snack from the school vending machine before going to work. Candy is everywhere! What does this mean for kids with diabetes?



THINGS TO CONSIDER

- Candy is mostly carbohydrate (sugar).
- Most candy has a food label.
- If a child or teen is eating well overall, a moderate amount of candy is OK.
- Candy can be a problem with dental health.
- Too much candy can lead to extra calories and weight gain.
- Candy can create conflict between parents and kids.
- Most single servings have about 15–45 grams of carbohydrate.

SUGGESTIONS FOR CODY, JENNY, JASON AND RACHEL

A small amount of candy is OK for kids with diabetes—remember to count the carbohydrates.

Cody’s parents may want to discuss the “candy projects” with the day care teachers. All the children in the day care would benefit if the projects involved fruits, vegetables, or other healthy foods. The teachers will also need instructions on how much candy or other food Cody can have so he will not feel left out, but will not have a high blood sugar.

Jenny may decide that she wants to buy a snack from the convenience store that she walks past on her way home every day. If the snack is a food like candy that is high in carbohydrate, she will need extra insulin to cover the snack. She can choose to either take an extra shot on her way home for the snack or wait until she gets home and include it with a meal or snack for which she is already taking a shot. She could also choose carbohydrate-free foods such as cheese sticks, nuts, or jerky for which she would not need insulin.

Jason could sell the candy bars and not eat them, or he could read the food label and figure out how many grams of carbohydrate they contain. He can then eat it with a meal or snack for which he is already taking a shot or take an extra shot just for the candy bar.

Rachel can get to know the food labels of her favorite vending machine choices. This way, she can take the right amount of insulin in an extra shot to cover the snack.

All kids and parents can find ways to reward or celebrate that do not involve candy. Stickers, time for fun activities, and hugs are all options.

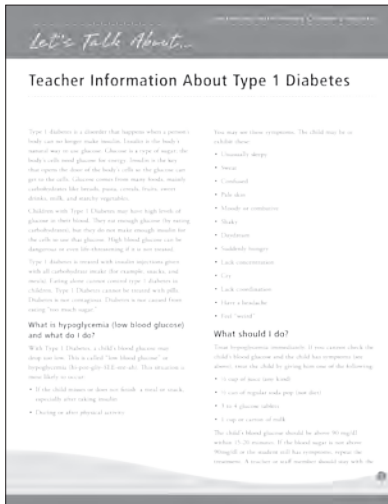


Ideas and notes
for your child



Eating at Preschool or Day Care

Caitlan is a three-year old at Mother Goose Preschool and Daycare Center. The school provides two snacks each day along with lunch. Caitlan's parents are writing down a list of things to review with the teachers about diabetes. What items should they include about eating?



THINGS TO CONSIDER

- Day care providers are required to post weekly menus for parents but may not have the carbohydrate amount information for the foods that are served.
- If the day care receives Child Care Food Program funding for meals, they follow guidelines on amounts they must serve from each food group.
- Day care providers may not be willing to give your child an insulin shot, which will make it necessary to make other arrangements for shots to be given as needed for meals or snacks.

SUGGESTIONS FOR CAITLAN'S PARENT

Set up an appointment with the teacher(s) and the day care director so you can talk for a few minutes without interruption.

Ask them if you can get a copy of the weekly menus. Chances are they are fairly consistent in carbohydrates.

Educate them about the importance of regular snack and meal times. Make arrangements with them so your child can eat at the same time each day.

Go over the signs of low blood sugar and review what they should do if they notice the symptoms in your child. You can use a handout from Primary Children's to help you with this: *Let's Talk About . . . Teacher information about type 1 diabetes.*

Provide them with juice or other carbohydrate foods that they can use for a low blood sugar reaction.

As needed, review with them what the arrangements will be for insulin shots before meals or snacks that are served, including the calculation of insulin doses.

Suggest that they call you with any concerns during the day and that you will check in with them regularly to see how things are going.



Ideas and notes
for your child



Eating Out

Between work, school, after-school activities and community service, the Diaz family is busy. They rely on eating out for many evening meals. The parents and three kids debate about where to eat. Dad likes sit-down restaurants like the Olive Garden and Village Inn. Mom likes Wendy’s, Jade likes Taco Bell, and the younger boys like McDonald’s. Now that their ten-year-old, Robert, has diabetes, they wonder where to go. Will they need to make all meals at home?

THINGS TO CONSIDER

- Most families eat out about three times per week.
- Serving sizes at restaurants are huge.
- Restaurant and fast foods are typically higher in carbohydrates and fat than foods made at home.
- Soda pop is a popular choice when eating out.

SUGGESTIONS FOR ROBERT AND HIS FAMILY

All the family favorites are fine for Robert. The key will be estimating the carbohydrate amounts as accurately as possible so that they can match his insulin shot correctly to his food.

The family can check the *Nutrition in the Fast Lane* booklet for carbohydrate content of fast foods. They can also ask the restaurant if they have nutrition information available or check the restaurant’s internet website for information ahead of time. It would also be helpful for Robert’s family to have a portable carbohydrate-counting book with them to refer to as needed. Various smart-phone apps, like Calorie King, Go Meals, and MyFitnessPal would be helpful to Robert.

There’s also a few things that Robert’s family can help him do to have a healthier experience eating out, including taking leftovers home for the next day, choosing diet soda over regular soft drinks, and making sure that he gets fruits and vegetables at other meals and snacks, since they are lacking in fast food and restaurant meals.



Ideas and notes
for your child



Holidays, Birthdays, and Celebrations

Jacob is an eight-year old who seems to go to a birthday party every weekend. Caleb is a ten-year old whose favorite holiday is Halloween because of the trick-or-treating. Valentine's Day is the favorite of Sara, who is twelve. Every celebration has food and festivities. What are some ideas for managing diabetes and still having fun?

THINGS TO CONSIDER

- Your child will be able to enjoy all holidays and birthday parties by counting carbohydrates.

SUGGESTIONS FOR KIDS WHO LOVE HOLIDAYS

Read Chapter 6: *The Carbo-Smart Cookbook*, in this binder. The "Special Occasions and Holidays" section has lots of tips and recipes. The candy reference chart in the Halloween section is especially helpful.

Emphasize the activities that go with a holiday (party games, music, costumes, homemade cards, etc.) and give less attention to the food.

Use non-food items for gifts and favors (stickers, crayons, pencils, small toys, etc.)

Use sugar-free beverages for drinks or have your child bring some along.

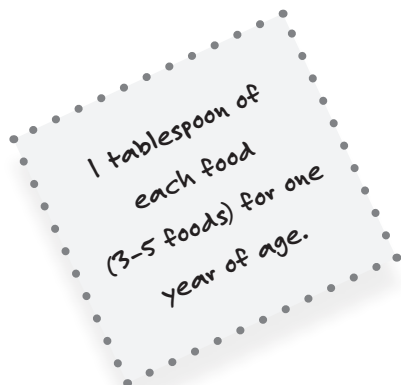
You will need to help your child keep track of blood sugar levels during special occasions so adjustments can be made in food and insulin.

Plan your snacks and desserts into meal times to avoid excessive shots.



Ideas and notes
for your child





Picky Eaters

Hannah is a four-year-old who is known as the picky eater in the family. There seem to be few foods that she likes, and she eats very slowly. She complains when her foods touch each other on the plate. The macaroni and cheese must never come in contact with the broccoli! Hannah is growing well, but her mom worries that she is not eating enough or having enough variety. She is also concerned about the risk of low blood sugars.

THINGS TO CONSIDER

- Most toddlers and pre-school age children go through eating stages where they seem to only like a small number of foods and would prefer to eat the same food everyday (like macaroni and cheese). This is their way of exploring and getting used to foods.
- At this age, it is also very common to like foods to be separated and to eat very slowly.
- A rule of thumb for children this age is 1 tablespoon of each food (3–5 foods) for each year of age. For example, a four year old would eat about this much for dinner:
 - ◇ 4 tablespoons of chicken (about 4 large children's bites)
 - ◇ 4 tablespoons of corn
 - ◇ 4 tablespoons of mashed potatoes
 - ◇ 4 tablespoons of applesauce
- Children's appetites vary at this age based on their current growth and activity.
- Children at this age need 2–3 snacks per day to make it from one meal to the next.



SUGGESTIONS FOR HANNAH

Acknowledge that she is in an "eating stage." Let Hannah pick what the family will have for dinner a few times a week. On the other days, expect that she will eat what the family does. Make sure there is at least one thing served that she will like and that will meet her carbohydrate needs.

Read Chapter 6: *The Carbo-Smart Cookbook* in this binder. It has many tips and recipes.

Offer Hannah three meals and three snacks per day. Have her help choose the snacks. "Would you like string cheese and apple slices or peanut butter on crackers?"

Don't worry too much about slow eating. Allow a reasonable amount of time to eat (20–30 minutes) and then put the food away. Try not to beg or nag.

Keep records of blood sugars, so you can watch for patterns and adjust for high and low blood sugars. Your diabetes team will teach you how to make adjustments in food intake and insulin each time you come to clinic.

For low blood sugar reactions, have juice or other snacks on hand.

Hannah's height and weight will be measured at each clinic visit. Chances are, if she is growing well, she is eating enough.





Real Life Schedules

Jake likes to sleep in on the weekends, and when he gets up he watches cartoons for a couple of hours. Jordan has a soccer game every Saturday morning, making breakfast difficult. Jessica's family does errands on Saturdays and ends up eating lunch later in the day. Justin's family goes to church on Sundays during the time he is usually eating lunch. Regular timing of meals and snacks is important with diabetes, but what can you do to make adjustments for real life?

THINGS TO CONSIDER

- Many families find that it is helpful to have a weekday plan and a weekend plan when it comes to managing diabetes.
- Exercise and activity lower blood sugar, so more carbohydrates may be necessary.
- Sitting in church and watching TV do not require as many carbohydrates, so less food may be needed.
- As you learn more about managing diabetes, you will learn more about making changes in food and insulin to match changing schedules. The diabetes team will help you with this while you are in the hospital and when you come to clinic.



SUGGESTIONS FOR JAKE, JORDAN, JESSICA, AND JIM

Jake may do well to start his late Saturday morning with a late breakfast and skip his morning snack. His insulin may need to be adjusted to accommodate the weekend schedule.

Jordan will need a snack before her soccer game along with plenty of water. After soccer, she may be more hungry and could need more food to cover for increased activity.

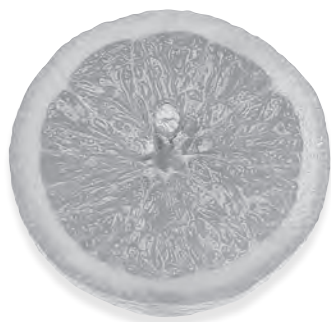
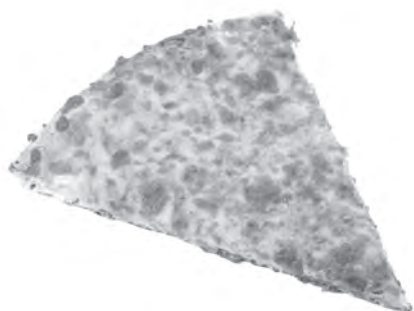
Jessica's family may be able to change the Saturday routine to accommodate Jessica's typical schedule. They could bring a snack or lunch along on errands or stop for a quick lunch at a restaurant.

Jim may do well to eat a bigger snack that includes protein before church and then eat his lunch later in the day as part of afternoon Sunday dinner. This could be followed by his regular evening snack.

Jake, Jordan, Jessica, and Jim will all want to monitor their blood glucose levels to help them make decisions about changes needed when life does not follow a usual pattern.

*Ideas and notes
for your child*





School Lunch

Brenna is an eleven-year-old that usually eats school lunch, depending on the menu that week. Her favorites are the pizza, the corn dogs and the burritos. She is a pretty good vegetable eater and always drinks the milk. How will Brenna fit school lunch into her diabetes plan?

THINGS TO CONSIDER

- Most schools in Utah participate in the National School Lunch Program. On average school lunches contain 75 grams of carbohydrate, which is usually broken down to:
 - ◇ 2 ounces of meat or meat alternative
 - ◇ 2 or more servings of fruits or vegetables
 - ◇ 2 servings of bread or whole grains
 - ◇ 1 serving of milk
- This consistency in the elementary and junior high schools makes it easier to estimate how much carbohydrate your child will get at lunch.
- If your child attends a school that participates in the National School Lunch Program, you should be able to obtain a list of the individual foods that are served with their specific carbohydrate content. This is something that can be obtained either through the school cafeteria management or through the district office. If you are having trouble obtaining this from the school, please discuss this with your school nurse or contact one of the dietitians that you work with in clinic.
- Schools are usually very willing to work with you and your child to meet your individual needs.



SUGGESTIONS FOR BRENNA

Brenna can hang a copy of the weekly menu on the refrigerator at home and review it for the items she likes.

Brenna's parents can review the menu with her each morning and help her decide what she will be eating and how much carbohydrate her lunch will contain.

Brenna's parents may also want her to call them at lunchtime to discuss what she will be eating, how much carbohydrate the meal will contain, and how much her total dose of insulin should be, based on her food and blood glucose level.

Brenna and her parents can also let the school lunch workers know that Brenna has diabetes, so that they can help her get the amount of carbohydrates that she has planned on eating at lunch so that her shot and her meal match appropriately.

*Ideas and notes
for your child*





Sleepovers

Twelve-year-old Angela is in a phase where she loves to sleepover at friends' homes. Sometimes it is a slumber birthday party, but most often it is just a night of hanging out at a friend's house. She is nervous when it comes to talking to her friends and their parents about her diabetes.

THINGS TO CONSIDER

- Kids may stay up later and be more active when sleeping at a friend's house.
- Kids will often snack frequently on high-carbohydrate foods at sleep-overs.
- Kids may need help talking to others about diabetes.

SUGGESTIONS FOR ANGELA

Angela's parents will need to talk to the other parents about when Angela takes her insulin and how she determines her dose for meals and snacks. They will probably also want to review with the other parents what symptoms Angela has when her blood glucose level is low and how a low blood glucose level should be treated. They could do this with Angela present so she can hear what they say and start to get comfortable with saying it herself.

The parents of Angela's friends can be reminded that they don't have to restrict what Angela eats. She may just need help with finding out the carbohydrate amounts for the foods that are served so she can take the right amounts of insulin.

Angela may want to bring an extra snack in her backpack for a bedtime snack or in case she needs more food because of increased activity.

Angela's parents can reassure her that she can take her insulin in private. They can go over with her the different foods that might be available and review how to count the carbohydrate in these foods. Doing this ahead of time may eliminate the need for Angela to talk about diabetes at her friend's house if she doesn't want to.

Angela and her friend's parents should call Angela's parents if there are any questions during the sleepover.



*Ideas and notes
for your child*





Sports and Activities

Nathan plays soccer in the spring and fall, skis in the winter, and swims in the summer. He is known as an active fourteen-year-old. His parents describe him as a skinny kid who needs to keep busy or he “bounces off the walls.” What kind of foods should Nathan eat to keep up his active lifestyle now that he has diabetes?



THINGS TO CONSIDER

- Exercise and activity are important habits for kids with diabetes to develop if they haven’t already.
- Exercise lowers blood glucose.
- Exercise requires either more carbohydrates and calories or less insulin.

IDEAS FOR NATHAN

Read Chapter 4: *Run, Jump, Play*. It has more explanations, tips, and suggestions.

Nathan may need carbohydrate foods before, during, and after exercise. The amounts will depend on his blood sugar levels and the intensity and length of the exercise.

The best way for Nathan to learn more about how much food he will need is to take blood sugar readings before and after exercise.

For soccer and swimming, Nathan could start with half a sandwich and a cup of Gatorade® before exercising. Gatorade® or fruit juice and other snacks should be available during exercise. A general rule of thumb is 4–8 ounces of Gatorade® every thirty minutes of exercise.

For downhill skiing all day, Nathan would want to have snacks in his pocket for his regular snack times, and stop for lunch. He may need less insulin for his food at lunch, depending on how hard he is skiing that day.

With experience and blood sugar monitoring, Nathan will be able to determine how much he needs to eat for different activities. This will also help him know if his short-or long-acting insulin should be reduced and how much it should be reduced on exercise days.



Ideas and notes
for your child





Teen Life

Andy is a seventeen-year-old recently diagnosed with diabetes. He likes to hang out with his friends on weekends. They usually pick up some movies and snack foods and get together at a friend's house. Sometimes they go to concerts or cruise around in their cars. They also go to parties or school functions like football games or dances. Andy is wondering how to manage his diabetes when eating with his friends.

IDEAS FOR ANDY

Andy will want to have portable carbohydrate-counting resources with him while he is out with his friends. These resources could include the *Nutrition in the Fast Lane* booklet or a small carbohydrate-counting book that includes fast foods and snack foods. Smartphone apps can act as an alternative to booklets as well. This will help him make accurate guesses on the carbohydrate content of snack foods that don't have labels or when he is eating at a fast-food restaurant. He will want to carry his insulin supplies with him so that he can take extra shots for food as often as he needs.



It may help for Andy to talk to his friends about his diabetes care, so that they can help him remember to take his shots and do blood glucose tests while he is out with them. It would also be helpful for Andy's friends to be aware of Andy's symptoms of low blood glucose levels, so that they can help him treat them appropriately, especially if he is showing signs of confusion or loss of consciousness.

It is important for Andy to keep snacks with him while he is out with friends so that he can treat low levels quickly. It is especially important for Andy to have snacks available in the car with which to treat lows, and for him to do extra testing before driving to help prevent low glucose levels while he drives. If Andy feels low while he is driving, he should always pull over immediately to treat the low level and wait until his glucose level has come up before driving again.

Andy's parents will want to continue to discourage drugs and alcohol and keep communication with Andy open about these issues. These topics can also be discussed at diabetes clinic as needed since they have significant effects on blood glucose levels.



Ideas and notes



Chapter 4

Run, Jump, Play



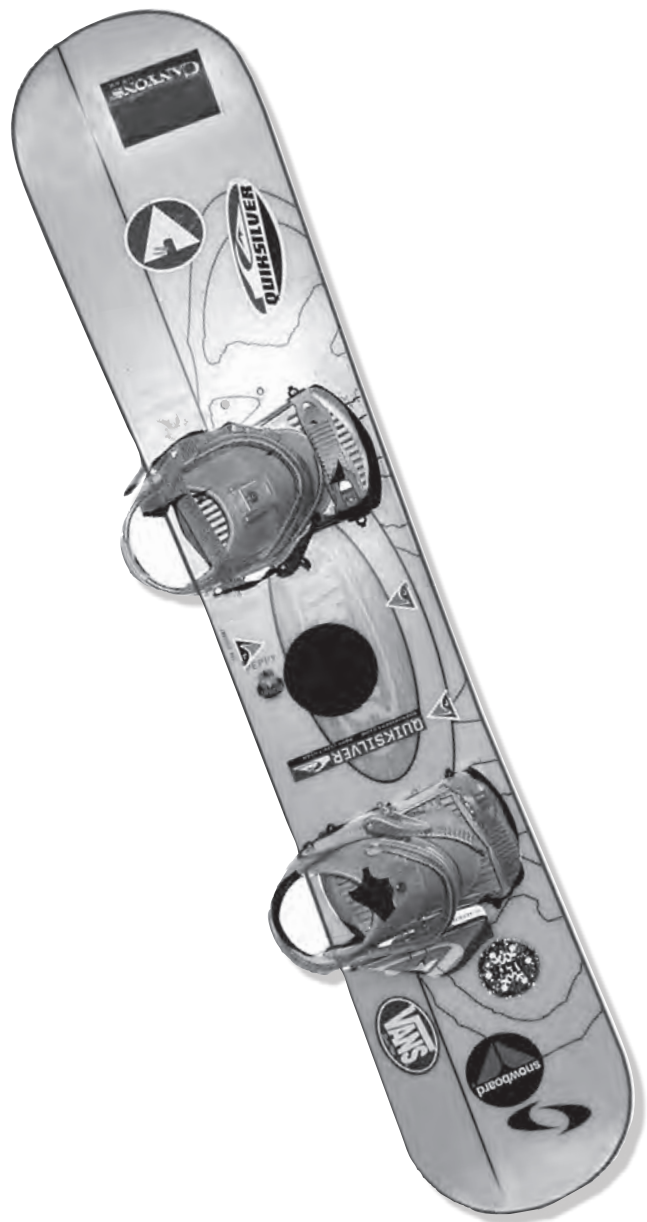
Enjoying Physical Activities	.4.2
Steps to an Active Lifestyle	.4.3
Suggestions for Exercising	.4.4
Tips for Extra Food to Cover Exercise	.4.5



Chapter 4

Run, Jump, Play

With all the concerns you have with nutrition, insulin, and blood glucose, it is easy to forget that there's another important part to diabetes management: exercise. Exercise can actually make nutrition and insulin management much easier. Many people with diabetes forget that a regular exercise schedule can control blood sugar levels, appetites, and even the emotions you and your child are feeling with this new condition. This chapter will discuss why exercise is important, offer simple and practical ways to get more exercise with your child, and give tips for the extra food needed to balance blood glucose levels when your child exercises.





Enjoying Physical Activities

Physical activity helps:

- control blood sugars
- burn calories
- control appetite
- decrease stress
- deal with feelings and emotions
- prevent disease
- increase social contact
- keep your mind off eating



Before beginning family activities or encouraging your child to become more active, keep the following points in mind:

- Involve the whole family in physical activity. Your child is more likely to be active if you're active yourself.
- An increase in activity won't just happen; you'll need to plan for it. Plan a family walk together right after dinner or take a family walk every Saturday morning.
- Be a role model for your children. If they see you taking an interest in your own fitness by participating in regular exercise and enjoying it, they may be more motivated to try it themselves.
- Be sure that the activities are safe and that you provide the appropriate gear. For example, ride on bike paths and wear a bicycle helmet.
- Encourage fun activities. Physical activities should be enjoyable. The more fun your child has while getting exercise, the more likely he or she will be to continue enjoying it for life.
- Provide an opportunity for your child to experience a variety of activities and then let him or her choose.
- Teach moderation in exercise. Exercise or physical activities should produce an enjoyable healthy lifestyle, not an obsession or potential injury.
- Schedule fitness into family vacations. Whether it is hiking or swimming, make sure there is some daily activity.



Steps to an Active Lifestyle

In order to increase your child's activity level, try to take "baby steps." Begin to include little bits of activity into the daily routine.

For starters, you can:



- Encourage your child to bike or walk to a friend's house or even to school.
- Have your child do some type of activity while watching television. Make it a game: for example, say "Every commercial deserves some sit-ups or jumping jacks" or something similar. Another option might be to have your child ride a stationary exercise bicycle or do some stretching during programs. Remind your child to do two things at once!
- Model behavior that encourages more activity. Make that climb up the stairs with your child instead of taking the elevator or the escalator.
- Instead of dessert, treat the family to an after-dinner walk around the block.
- Spend the day with your child at the bowling alley or the skating rink.
- Go mall walking with your child; it's a fun way to window shop.
- Park the car further out in the parking lot, while shopping with your family. The extra five minutes spent sitting in the car waiting for the "ideal spot" could be spent burning calories walking.
- Remove the remote control; instead, have your children get up and change the channel on the television directly.
- Assign yard work and gardening; the time spent in the fresh air is a productive way of being active. Likewise, those house chores should be thought of as opportunities for activity.
- Reinforce play with other children as an excellent way to get active.





Suggestions for Exercising

- Have your child eat before heavy exercise.
- Have extra snacks available during exercise. Some people use Gatorade®, four to eight ounces, for every thirty minutes of vigorous exercise.
- Always have your child carry a source of glucose that digests quickly in case of hypoglycemia while exercising.
- Reduce the insulin dose.
- Rotate the injection site on your child.
- Teach your child to check blood sugars before and after exercise to learn the best insulin adjustment for the activity.
- Make sure your child wears an identification bracelet or necklace and carries carbohydrates while they exercise.
- Have your child 'buddy up.' Encourage your child to exercise with a friend who knows about low blood sugar reactions.
- Make sure your child's coaches know about low blood sugars.
- Do not have your child exercise if ketones are present.
- Encourage your child to drink plenty of water, especially in hot weather. Bring water along when exercising.
- If delayed hypoglycemia occurs frequently with your child, an extra carbohydrate and protein should be taken with the next meal or snack.



- Remember that exercise may affect your child's blood sugars differently.
- Caution your child not to take amino acids or protein supplements unless you both have studied the nutrition content and talked it over with your dietitian or doctor.
- Inject your insulin in an area that will not be vigorously exercised to avoid low blood sugars.



Tips for Extra Food to Cover Exercise

Expected Length of Exercise	Blood Sugars (mg/dl)	Carbohydrate Grams	Examples of Foods
A. Short (15 to 30 minutes)	<80	15	8 oz. Gatorade® or 8 oz. milk* or 4 oz. juice
	80 – 150	15	Fresh fruit (or any 15 gm carbohydrate*)
	>150	0	None
B. Longer (30 to 120 minutes)	<80	30	16 oz. Gatorade®
	80 – 150	30	16 oz. Gatorade® or 8 oz. milk plus fresh fruit
	>150	15	½ sandwich*
C. Longest (2 to 4 hours)	<80	45	4 oz. juice** or 8 oz. Gatorade® plus whole sandwich
	80 – 150	30	Whole sandwich or fresh fruit or protein bar
	>150	15 – 30 per hour	½ banana, or 8 oz. Gatorade®, or granola bar

* Each of these have 15 grams of carbohydrate, which will last for about 30 minutes of moderate exercise. A sandwich with meat or other protein will last longer.

**Pay particular attention to drinking fluids before and during exercise. You may also need to reduce insulin dosage.

Remember to drink extra water, Gatorade® or other fluids during moderate exercise to prevent dehydration. Moderate exercises include walking, bicycling leisurely, shooting a basketball, mowing the lawn, etc. If you do more vigorous exercise (e.g., jogging, bicycle racing, playing basketball games, or digging in the garden) for a similar period of time, then you may need to add more food. Amounts vary for different people. The best way to learn is to test blood sugars before and after the exercise and keep a record of your blood sugars.

Exercise performed 1 to 3 hours after a meal may not require any additional carbohydrate supplement. Pre-exercise snack should be eaten at least 15 minutes before exercise. Watch for hypoglycemia 6 to 12 hours after exercise lasting 2 to 4 hours. Increase the bedtime snack by 15 grams on days you exercise this much.



Chapter 5

Think Fast and Eat Well



Alphabetized Food List	5.3
Starch Group	5.17
Breads, Cereals, Rice, Pasta, Beans, Lentils, Starchy Vegetables, “Snacky Carbohydrates,” and Dessert-type Carbohydrates	
Vegetable Group	5.21
Fruit Group (including fruit juices)	5.23
Milk Group	5.27
Protein Group	5.29
Fat Group	5.31
Combination Food Group	5.33



Now that you have learned to count carbohydrates, here are some resources. First, we've included an alphabetized quick-reference list. Then you will find tips about the nutrition, preparation, and selection of foods within the **Diabetes MyPlate** followed by a list of serving sizes for specific foods within the group.



Alphabetized Food List

Food

Serving Size

Carbohydrate Grams

A



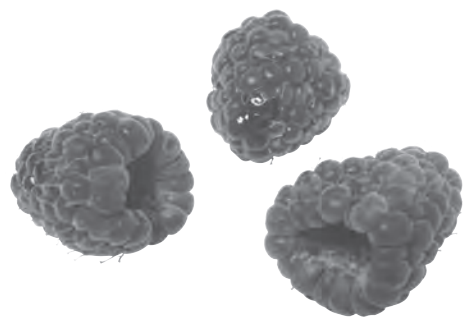
Angel food cake, unfrosted.	1/12 of cake (2 oz.).	30
Apple,		
dried	5 rings	20
unpeeled	1 medium (6 oz.).	22
Caramel apple	1 large apple	75
Applesauce, unsweetened	1/2 cup	15
Apricots,		
canned unsweetened	1/2 cup	15
dried	8 halves.	15
fresh	1 medium (2 oz.).	6
Artichoke	1/2 cup cooked or 1 cup raw	5
Artichoke hearts	1/2 cup cooked or 1 cup raw	5
Asparagus.	1/2 cup cooked or 1 cup raw	5
Avocado	1/8 medium (1 oz.)	0

B



Bacon,		
cooked	1 slice	0
Bagel.	1 medium (4 oz.).	60
grocery store.	1 large (4 oz.).	60
Banana	1 medium (5 oz.).	27
Beans,		
baked.	1/2 cup	20
black, garbanzo, kidney, lima, pinto, ...	1/2 cup cooked	20
split, white		
green, Italian, wax	1/2 cup cooked or 1 cup raw	5
Bean sprouts.	1/2 cup cooked or 1 cup raw	7
Beef, ...	1 oz.	0
chuck and rump roast, cubed, ground beef,		
meatloaf round, porterhouse, rib,		
short and prime ribs, sirloin and flank		
steak, T-bone, tenderloin		
Beef stew	3/4 cup	15
Beef Stroganoff, with noodles	3/4 cup	25





Food	Serving Size	Carbohydrate Grams
Berries, whole unsweetened		
blackberries	½ cup (2½ oz.)	7
blueberries.	½ cup (2½ oz.)	10
boysenberries	½ cup (2½ oz.)	8
raspberries.	1 cup (4 oz.)	15
strawberries	18 medium or 9 large, 1 cup (5½ oz.)	12
Beets	1 cup cooked or 1 cup raw	15
Biscuit	2" diameter (1 oz.)	20
Bread,		
banana	1 small slice (2 oz.)	30
corn	2" square (2 oz.)	30
light	2 slices	15
french, raisin, rye, wheat, white	1 slice (1 oz.)	15
Breadstick.	1½ oz.	22
Broccoli.	½ cup cooked or 1 cup raw	5
Brownie,		
with frosting.	2 oz.	40
without frosting	2 oz.	40
Brussels sprouts	½ cup cooked or 1 cup raw	7
Bulgur	½ cup	15
Bun,		
hamburger	1 regular (1½ oz.)	22–25
hot dog	1 whole	20–22
Burrito,		
bean	1 burrito	40–70
beef	1 burrito	35
Butter,		
reduced-fat	1 Tbsp.	0
stick	1 tsp.	0
whipped	2 tsp.	0

C

Cabbage	½ cup cooked or 1 cup raw	5
Cake,		
frosted	2" square (2 oz.)	40
unfrosted	2" square (2 oz.)	40
Cake bite/pop	1 small	20
Candy, hard	3 candies	15
Cantaloupe, small	½ medium or 1 cup cubes (6 oz.)	15
Carrots	½ cup cooked or 1 cup raw	5
Cauliflower	½ cup cooked or 1 cup raw	3
Celery	½ cup cooked or 1 cup raw	2



Food	Serving Size	Carbohydrate Grams
------	--------------	--------------------

Cereal,		
cooked sweetened	½ cup prepared or 1 packet	30
cooked unsweetened	½ cup prepared or 1 packet	15
granola	½ cup	30
Grape-nuts®	½ cup	48
puffed rice / wheat	1 cup	10–15
muesli	¾ cup	50

Cereal, heavy bran / grain 1 cup 45–50
 (All Bran®, Bran Buds®, Crunchy
 Nugget®, Fruit & Nut®, Just Right®,
 Muesilix®)

Cereal, mostly bran / grain 1 cup 25–30
 (Bran Flakes®, Corn Bran®, Corn Chex®,
 Frosted Mini Wheats®, Fruit & Fiber®,
 Life®, Nutri-Grain®, Post Toasties®,
 Shredded Wheat®, Sun Flakes®,
 Total®, Wheat Chex®, 40% Bran®)

Cereal, sweetened 1 cup 30–35
 (Apple Cinnamon Cheerios®, Apple Jacks®,
 Banana Crunch®, Cap'n Crunch®,
 Cinnamon Life®, Cocoa Pebbles®, Corn
 Pops®, Crunch Berries®, Fiber One®, Froot
 Loops®, Frosted Flakes®, Fruity Pebbles®,
 Golden Grahams®, Honey Bunches of
 Oats®, Lucky Charms®, Peanut Butter
 Crunch®, Trix®)

Cereal, unsweetened 1 cup 20–25
 (Cheerios®, Corn Flakes®, Crispix®,
 Grape Nut Flakes®, Kix®, Rice Chex®,
 Rice Krispies®, Special K®, Total®, Wheaties®)

Cheese,
 all regular, ... 1 oz. 0
 American, Cheddar, Monterey Jack, Swiss
 cottage, grated parmesan ¼ cup 5
 feta, mozzarella. 1 oz. 1
 ricotta ¼ cup (2 oz.) 3

Cheese, cream,
 reduced-fat 1 Tbsp. (1 oz.) 2
 regular 1 Tbsp. (1 oz.) 1
 fat-free 1 Tbsp. (1 oz.) 3

Cherries,
 canned unsweetened ½ cup 15
 sweet, fresh 8 fruit (2 oz.) 10

Chicken 1 oz. 0

Chicken, fried or nuggets 1 piece or 6 nuggets (3 oz.) 15

Chicken, casserole. 1 cup 30

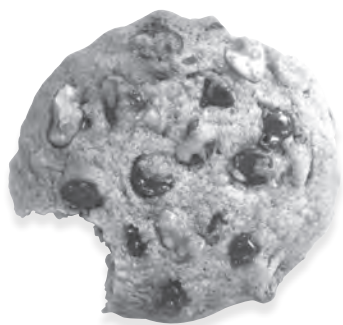
Chili con carne ½ cup 15

Chips,
 potato, ... 10–15 (1 oz.) 15
 tortilla 12 chips (1 oz.) 20



.....

Food	Serving Size	Carbohydrate Grams
Chop Suey, vegetable	½ cup	3
Chow Mein, meat.	1 cup	10
Chow Mein noodles.	½ cup	20
Churro	small (1½ oz.).	20
Clams	1 oz.	0
Cocoa,		
hot, sugar-free with water	1 packet.	8–12
hot, with water.	1 packet.	20–25
Coconut, shredded sweetened.	¼ cup	7
Cookie,		
fortune	3 cookies	15
gingersnaps	3 cookies	15
homemade, all types.	1 small, 2" (1 oz.)	20
Lorna Doone®	3 cookies	15
sandwich with cream filling	2 small cookies	15
vanilla wafers	5 wafers.	15
Condiments/sauces,		
ketchup, honey mustard, fry sauce, ...	1 Tbsp.	4
steak sauce		
mustard, soy sauce	1 tsp.	0
BBQ sauce.	1 Tbsp.	2
sweet & sour sauce	1 Tbsp.	4
Corn	½ cup	15
Corn bread	1 piece (2 oz.).	30
Corn dog	1 corn dog	20–25
Corn on the cob	1 5" piece (2¼ oz.)	15
Cornmeal	3 Tbsp.	22
Cotton candy	1 oz.	28
Couscous	½ cup	20
Crab	1 oz.	0
Crackers	4–6 crackers	15
Crackers,		
animal	8 crackers.	16
goldfish	55 crackers (1 oz.)	20
graham	3 crackers, 2½" square	15
oyster.	20 crackers	10
round butter	5 cracker	10
saltine	6 crackers.	15
sandwich, cheese or peanut butter	5 crackers.	20
Teddy Grahams®	15 crackers	15
Vanilla Wafers®	5 wafers.	15
whole wheat	4–6 crackers (1 oz.)	15





Food	Serving Size	Carbohydrate Grams
Cranberry sauce, jellied	¼ cup	.27
Cream, half and half	2 Tbsp.	2
Creamers, nondairy, liquid	1 Tbsp.	2
nondairy, powdered	1 Tbsp.	2
Croutons	¼ cup	.15
Cucumber	½ cup cooked or 1 cup raw	3
Cupcake, frosted	1 small (2 oz.)	.40
unfrosted	1 small (2 oz.)	.40

D

Dates	5 medium (1½ oz.)	.30
Donut, glazed, ...	1 donut 3" (2 oz.)	.30
plain cake	1 small (2 oz.)	.30
Duck	1 oz.	0

E

English muffin	1 muffin (2 oz.)	.30
Egg	1 egg	0
Egg substitutes, plain	¼ cup	0
Egg whites	2 egg whites	0
Eggplant	½ cup cooked or 1 cup raw	3
Enchilada, cheese and meat	6 oz.	.30

F

Figs, dried	3 medium (1 oz.)	.23
fresh	1 medium (2 oz.)	.10
Fish, breaded and fried	1 piece (4 oz.)	8
Fish (not breaded), fresh or frozen cod, flounder, haddock, ...	1 oz.	0
halibut, herring (uncreamed or smoked), salmon (fresh or canned), trout, catfish or tuna fish (canned in water or oil)		
sardines, canned	2 medium	0
Fish sandwich, with tartar sauce	1 sandwich	.45
Fish sticks	2 sticks (2 oz.)	.12
Flour, wheat, dry	2 Tbsp.	.12
wheat, dry	½ cup	.50
white, dry	2 Tbsp.	.16
white, dry	½ cup	.63



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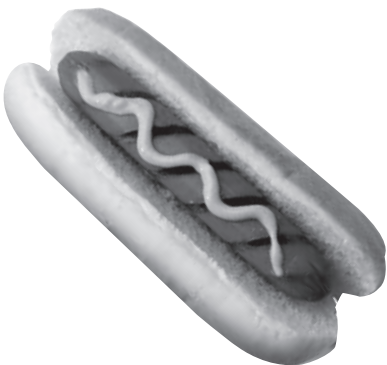
Food	Serving Size	Carbohydrate Grams
French fries	Small order (3 oz.)	30
French toast	1 slice	15
Fruit cocktail, unsweetened.	½ cup	15
Fruit juice bars, frozen.	1 bar	15
Fruit salad, fresh	1 cup	20
Fruit snacks, chewy (pure fruit concentrate)	1 small package	15–20
Fruit spreads, 100% fruit.	1 Tbsp.	15

G



Gelatin dessert,		
regular	½ cup	18
sugar-free	½ cup	0
Granola bar	1 bar	15–22
Grapefruit.	½ large (10 oz. or 6 oz. flesh)	15
Grapes	15 medium, ⅔ cup (3 oz.)	18
Gravy,		
homemade, thick	¼ cup	8
prepared from mix	¼ cup	4
Green onions or scallions	½ cup cooked or 1 cup raw	5
Greens, collard, kale, mustard	½ cup cooked or 1 cup raw	5
Grits,		
cooked	½ cup	15
uncooked	3 Tbsp.	15
Gum, sugar-free	2 sticks	1–2

H



Ham, fresh, canned, cured, boiled	1 oz.	0
Hamburger,		
small bun	2 oz.	30
large bun	3 oz.	45
Hamburger Helper®	1 cup	30
Honey	1 Tbsp.	15
Honeydew	1 slice, 1 cup cubes (6 oz.)	15
Hot dog, without bun	1½ oz.	0
Hot dog, with bun (without condiments)	1 hot dog	20–22



**Food****Serving Size****Carbohydrate Grams****I****Ice cream,**

light or fat free ½ cup 20

regular ½ cup 20

Ice cream cone,

sugar 1 cone 11

waffle 1 small cone 14

J**Jam or jelly,**

low sugar or light 1 Tbsp. 5

regular 1 Tbsp. 15

Juice,

apple, orange, pineapple, ... ½ cup 15

cranberry juice cocktail, fruit juice blends

grape ½ cup 20

prune ⅓ cup 15

reduced sugar, carrot 1 cup 15

tomato ½ cup 5

V-8® vegetable 1 can (11½ oz.) 15

V-8 Splash® vegetable 1 cup (8 oz.) 20

K

Kasha ½ cup 15

Kiwi 1 medium (2½ oz.) 10

Kohlrabi ½ cup cooked or 1 cup raw 5

L

Lamb, chop, ground, leg, roast, ... 1 oz. 0

Lasagna,

meat 1 cup 30

vegetable 1 cup 35

Leeks ½ cup cooked or 1 cup raw 5

Lentils,

cooked ½ cup 20

uncooked 3 Tbsp. (1 oz.) 15

Lettuce 1 cup raw 2

M**Macaroni,**

cooked ½ cup 20

uncooked ¼ cup 20





Food	Serving Size	Carbohydrate Grams
Macaroni & cheese	½ cup	25–30
Mandarin oranges, canned	½ cup	15
Mango, small, no skin	½ cup cubes (3 oz.)	15
Margarine,		
fat-free	4 Tbsp.	0
low-fat (30 to 50% vegetable oil)	1 Tbsp.	0
stick, tub, squeeze	1 tsp.	0
Marshmallows	5 regular	30
Mayonnaise,		
reduced-fat	1 Tbsp.	0
regular	1 tsp.	0
Meat, sandwich spread with 3 grams	1 oz.	0
of fat or less		
Melba Toast	4 slices	15
Melon	1 cup cubes	15
Milk,		
chocolate	½ cup	15
evaporated, fat-free, whole	½ cup	15
fat-free, goat's, Kefir, sweet acidophilus, ...	1 cup	12
whole, ½%, 1%, 2%		
Milk, soy,		
flavored	1 cup	25
flavored, light	1 cup	15
plain	1 cup	5
Millet	½ cup cooked	20
Miracle Whip®,		
reduced-fat	2 Tbsp.	6
regular	2 Tbsp.	4
Miso	3 Tbsp.	15
Muffin,		
prepared from mix	1 small (2 oz.)	30
ready-to-eat	1 medium, cupcake size (3 oz.)	45
Mushrooms	½ cup cooked or 1 cup raw	5
N		
Nachos, chips with cheese	15 chips	30
Nectarine	1 small (4 oz.)	12
Nonstick cooking spray		0
Noodles,		
uncooked	¼ cup (1 oz.)	20
cooked	½ cup (3 oz.)	20
Ramen®	1 large package	52



Food	Serving Size	Carbohydrate Grams
Nuts,		
almonds, cashews, mixed (50% peanuts)	6 nuts	3–6
peanuts	10 nuts	5
pecans, walnuts	4 halves	2

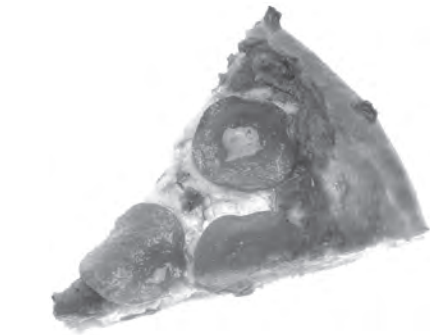
O

Oatmeal,		
dry	1/2 cup uncooked	30
sweetened	1 packet or 1/2 cup prepared	30
unsweetened	1 packet or 1/2 cup prepared	15
Oats,		
cooked, instant, flavored	1 packet	30
dry	1/2 cup	30
Oil,		
canola, olive, peanut (monounsaturated)	1 Tbsp.	0
corn, safflower, soybean (polyunsaturated)	1 Tbsp.	0
Okra	1/2 cup cooked or 1 cup raw	5
Olives,		
green stuffed	10 large	0
ripe	8 large	0
Onions	1/2 cup cooked or 1 cup raw	5
Orange	1 medium (7 oz.)	20
Oysters	6 medium	0

P

Pancake	1 4" diameter (1 oz.)	10
Papaya	1/2 fruit or 1 cup cubes (5 oz.)	15
Pea pods	1/2 cup cooked or 1 cup raw	5
Peach,		
canned unsweetened	1/2 cup	15
fresh	1 medium (3 oz.)	10
Peanut butter, smooth, chunky	2 Tbsp.	5
Pear,		
canned unsweetened	1/2 cup	15
fresh	1/2 large (4 oz.)	13
Peas, green	1/2 cup	10
Peppers	1/2 cup cooked or 1 cup raw	5
Pie,		
chocolate, cream	1/6 of 8" pie	40
fruit, made with 2 crusts	1/8 of 9" pie	45
pumpkin, custard	1/6 of 8" pie	30





Food **Serving Size** **Carbohydrate Grams**

Pineapple,
canned unsweetened ½ cup 15
fresh, no skin ¾ cup (4 oz.) 15

Pita,
white ½ 6" diameter (1 oz.) 15
wheat ½ 6" diameter (1 oz.) 15

Pizza,
deep dish (stuffed crust) 1 medium slice 35–45
deep dish (individual) 1 6" pizza 65–70
hand tossed 1 medium slice 25–35
homemade. 1 medium slice (3 oz.) 30
thin crust 1 medium slice 15–25

Plums,
canned unsweetened ½ cup 15
fresh 2 small (5 oz.) 15

Popcorn, buttered. 3 cups. 15

Pork,
tenderloin, center loin chop, ... 1 oz. 0
chop, top loin, Boston butt, cutlet,
spareribs, ground pork, pork sausage

Pork & beans ½ cup 15

Pot pie 1 (7 oz.) 30

Potato chips 12–18 (1 oz.) 15

Potato,
baked, broiled 1 medium (8 oz.) 55–60
mashed ½ cup 15–18

Pretzels. 1 oz. or 20 mini-size 25

Pretzel, Pretzel Maker® 1 pretzel 75–80

Prunes, dried 3 fruit. 15

Pudding,
regular ½ cup 30
sugar-free ½ cup 15

Q
Quinoa ½ cup cooked 20

R
Radishes ½ cup cooked or 1 cup raw 5
Raisins 2 Tbsp. 15
Raisin bread 1 slice (1 oz.) 15–18
Rice cakes 2 cakes 15



Food	Serving Size	Carbohydrate Grams
Rice,		
brown, instant, long grain, white, wild	1 cup cooked	.45
spanish	½ cup	.20
Rice milk	1 cup	varries
Roll,		
plain	1 small (1 oz.)	.15
sweet, Danish	1 medium roll (3 oz.)	.45
S		
Salad dressing, regular	2 Tbsp.	1–8
Salsa	¼ cup	5
Sauerkraut	½ cup cooked or 1 cup raw	5
Sausage.	1 oz.	0
Scallops.	1 oz.	0
Sesame seeds	1 Tbsp.	0
Sherbet or sorbet.	½ cup	.30
Shortening or lard	1 tsp.	0
Shrimp	1 oz.	0
Soup,		
beef, chicken, turkey (noodle or vegetable)	½ can	.10
clam chowder, minestrone, tomato	½ can	.15
cream of chicken, cream of mushroom	½ can	9
made with water	½ can	10–20
made with milk	½ can	.20–25
ready-to-eat	10 oz.	.15–30
ready-to-eat with meat. (bean with bacon, green pea, split pea with ham or bacon)	½ can	.30
ready-to-eat with meat. (beef, chicken vegetable, sirloin burger, stroganoff, beef vegetable)	10 oz. can.	.23
Sour cream,		
reduced-fat	2 Tbsp.	2
regular	2 Tbsp.	1
Spaghetti,		
cooked	½ cup	.20
sauce	½ cup	8–10
with sauce	½ cup	.25
Spaghetti O's®.	1 cup	.30–35
Spinach	½ cup cooked or 1 cup raw	5





Food	Serving Size	Carbohydrate Grams
Squash,		
summer (zucchini)	½ cup cooked or 1 cup raw (3½ oz.)	5
sweet potato, plain	½ cup (3 oz.)	20
winter (acorn/butternut)	½ cup cooked or 1 cup raw (3½ oz.)	10
Stuffing, bread, prepared.	½ cup	20
Submarine	1 6" sandwich	45
Sugar substitutes, approved by FDA Equal®, Splenda®, Sprinkle Sweet®, Sugar Twin®, Sweet One®, Sweet-10®, Sweet'n'Low®		0
Sugar, white or brown	1 Tbsp.	15
Syrup,		
light	¼ cup	26
regular	¼ cup	53
sugar free	¼ cup	10

T



Taco shell	1 6" diameter	15
Tangerines	1 medium (4 oz.)	13
Tater tots	6 pieces (2 oz.)	12-15
Tempeh.	1 piece (3 oz.)	12
Tofu	½ cup (4 oz.)	3
Tomato, fresh, canned as sauce	½ cup cooked or 1 cup raw	5
Tortilla,		
corn	1 small (6" diameter)	10
flour	1 small (6" diameter)	15
flour	1 large (12" diameter)	30
Tuna casserole	½ cup (4 oz.)	20
Turkey, white or dark meat, no skin	1 oz.	0
Turnips	½ cup cooked or 1 cup raw	5

V

Venison.	1 oz.	0
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W

Waffle	1 4" round (1½ oz.)	15
Water chestnuts	½ cup cooked or 1 cup raw	5
Watercress	½ cup cooked or 1 cup raw	5
Watermelon.	1 small slice or 1 cup cubes (5½ oz.)	10
Wheat germ.	¼ cup	15





Food

Serving Size

Carbohydrate Grams

Y

Yam, plain, cooked ½ cup cooked (2½ oz.) 20

Yogurt,

regular 1 container (6 oz.) 30–35

lite 1 container (6 oz.) 15–20

Greek, flavored 1 container (5.3 oz.) 20

Greek, non-flavored 1 container (5.3 oz.) 15

Yogurt, frozen,

no sugar ½ cup 20

regular ½ cup 25

Z

Zucchini ½ cup cooked or 1 cup raw (3½ oz.) 5







Starch Group

BREADS, CEREALS, RICE, PASTA, BEANS, LENTILS, STARCHY VEGETABLES, “SNACKY CARBOHYDRATES”, AND “DESSERT-TYPE CARBOHYDRATES”

Foods from this group should make up the majority of your carbohydrates in any given day. Notice that “starch” doesn’t just mean bread and pasta—it includes beans, cereals, and some vegetables. Some of the items in this group, like an English muffin, are also found in the combination foods group when they are made with other things like pizza sauce and cheese for an English-muffin pizza. To find out how many grams of carbohydrate your English-muffin pizza has use the combination foods group (or find the English-muffin pizza in our *Carbo-Smart Cookbook*).

NUTRITION TIPS

1. Most foods from this group are good sources of B vitamins. B vitamins are important to promote metabolism — including making DNA, proteins, fats, hormones, or breaking down fats in the body.
2. Foods made from whole grains are good sources of fiber. Fiber cannot be broken down by the body, which increases the bulk and softens stool and can lower cholesterol.
3. Beans, peas, and lentils are a good source of protein and fiber.
4. The “snacky” carbohydrates can be used in your meal plan, even though they contain added sugars or fat. If you use them, be sure to eat a variety of foods and 5 fruits and vegetables each day.
5. At least 5 or more servings of fruits and/or vegetables should be eaten daily.

SELECTION TIPS

1. Always check the nutrition facts on the food label to determine serving size and grams of carbohydrate.
2. Most foods are measured after cooking.
3. Breads, muffins, or rolls can be 2, 3, or 4 ounces in size. Remember that each 1-ounce serving is 15 grams of carbohydrate.
4. Many of the snacky carbohydrates are more concentrated sources of carbohydrate and fat, so the portion sizes are often smaller.





EASY WAYS TO EAT WHOLE GRAINS, BEANS, AND STARCHY VEGETABLES

- In a meatloaf or meatball recipe, substitute some grain, such as oatmeal, bulgur, or brown rice for some of the meat.
- Add brown rice, peas, or beans to a vegetable soup.
- Prepare a hearty bean or pea soup. Eat some and divide the rest into individual portions; store the soup in the freezer for a quick meal.
- When you are cooking grains, make enough for extra servings. Then toss them on salads, add them into soups or casseroles, or reheat them as leftovers.
- Eat whole-grain cold cereal as a snack and pack the small boxes for snacks on the run.
- Open a can of garbanzo beans (chickpeas) or kidney beans and add them to a salad, tomato sauce or a three-bean salad.
- Treat yourself to great-tasting whole-wheat bread with meals, for a snack, or as the main course at breakfast.
- Add crunch to a salad or casserole with tortilla chips.
- Have pretzels or popcorn for a snack.



Food	Serving Size	Carbohydrate Grams
BREAD		
Bagel	1 large (4 oz.)	60
Biscuit	1 whole, 2" diameter (1 oz.)	20
Bun, hamburger	1 regular (1½ oz.)	22 – 25
hot dog	1 regular (1½ oz.)	20 – 22
Bread, french, raisin, rye, wheat, ...	1 slice (1 oz.)	15
white		
Corn bread	1 piece (2 oz.)	30
English muffin	1 whole (2 oz.)	30
Muffin, prepared from mix	1 medium (2 oz.)	30
ready-to-eat	1 medium (3 oz.)	45
Pancake	1 small, 4" diameter (1 oz.)	10
Pita	½ 6" in diameter (1 oz.)	15
Roll, plain	1 small (1 oz.)	15
Stuffing, bread	½ cup	20
Tortilla, corn	1 small (6" diameter)	10
flour	1 small (6" diameter)	15
flour	1 large (12" diameter)	30
Taco shell	1 6" in diameter	15
Waffle	1 small, 4" round (1½ oz.)	15

CEREAL

Oatmeal, dry	½ cup uncooked	30
sweetened	1 packet or ½ cup prepared	30
unsweetened	1 packet or ½ cup prepared	15
Granola	½ cup	30 – 35
Grape-Nuts	½ cup	48
Heavy bran / grain All Bran®, Bran Buds®, ...	1 cup	45 – 50
Crunchy Nugget®, Fruit & Nut®, Just Right®, Mueslix®		
Mostly bran / grain, ...	1 cup	25 – 30
Bran flakes, Corn Bran®, Corn Chex®, Frosted Mini Wheats®, Fruit 'n Fibre®, Life®, Nutri Grain®, Post Toasties®, Shredded Wheat, Sun Flakes®, Total®, Wheat Chex®, 40% Bran®		

Food	Serving Size	Carbohydrate Grams
CEREAL (CONTINUED)		
Sweetened, ...	1 cup	30 – 35
Apple Cinnamon Cheerios®, Apple Jacks®, Banana Nut Crunch®, Cap'n Crunch®, Cinnamon Life®, Cocoa Pebbles®, Corn Pops®, Crunch Berries®, Fiber One®, Fruit Loops®, Frosted Flakes®, Fruity Pebbles®, Golden Grahams®, Honey Bunches of Oats®, Lucky Charms®, Peanut Butter Crunch®, Trix®		
Unsweetened, ...	1 cup	20 – 25
Cheerios®, Corn Flakes®, Crispix®, Grape Nut Flakes®, Kix®, Rice Chex®, Rice Krispies®, Special K®, Total®, Wheaties®)		

PASTA

Elbow, macaroni, shell, ...	½ cup cooked	20
spiral		
Ramen noodles	1 large package	52

RICE

Brown, instant, white	½ cup cooked	20
Spanish	½ cup cooked	20

OTHER GRAINS

Bulgur	½ cup cooked	15
Cornmeal, dry	3 Tbsp.	22
Couscous	½ cup cooked	20
Flour, wheat, dry	2 Tbsp.	12
wheat, dry	½ cup	50
white, dry	2 Tbsp.	12
white, dry	½ cup	50
Grits, cooked	½ cup	15
uncooked	3 Tbsp.	15
Kasha	½ cup	15
Millet, cooked	½ cup	20
Muesli	¾ cup	50
Oats, cooked	1 cup or 1 packet	30
dry	½ cup	30
Quinoa	½ cup cooked	20
Wheat germ	¼ cup	15



Food	Serving Size	Carbohydrate Grams
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STARCHY VEGETABLES

Corn	½ cup	15
Corn on the cob	5" ear (2¼ oz.)	15
Peas, green	½ cup	10
Potato, baked or broiled	1 medium (8 oz.)	55–60
mashed	½ cup	15
Squash, summer (zucchini)	½ cup cooked or 1 cup raw (3½ oz.)	10
sweet potato (plain)	½ cup cooked (3½ oz.)	20
winter (acorn or butternut)	½ cup cooked or 1 cup raw (3½ oz.)	10

BEANS AND LENTILS

Baked beans	½ cup	20
Beans, cooked black, garbanzo, kidney, lima, pinto, split, white	½ cup	20
Lentils, cooked	½ cup	20
Miso paste	3 Tbsp.	15

SNACKY-TYPE FOODS

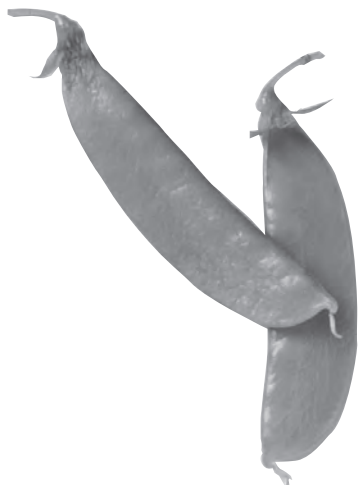
Chips		
corn	12 chips (1 oz.)	20
potato	10–15 chips (1 oz.)	15
tortilla	12 chips (1 oz.)	20
Crackers		
animal	8 crackers	15
Goldfish®	55 crackers (1 oz.)	20
graham crackers	3 crackers (2½" squares)	15
oyster	20 crackers	10
round butter type	5 crackers	20
saltine	6 crackers	15
sandwich, cheese or peanut butter	5 crackers	20
whole wheat	4–6 crackers (1 oz.)	15
Fruit snacks, (Welch's, TreeTop, Motts)	1 small package	19
Granola bar	1 bar	20
Melba toast	4 slices	15
Popcorn, popped, buttered	3 cups	15
Pretzels, mini	20 pretzels	25
Rice cakes	2 cakes	15
Teddy Grahams®	25 pieces	25
Vanilla wafers	5 wafers	15

Food	Serving Size	Carbohydrate Grams
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DESSERT-TYPE CARBOHYDRATE

Angel food cake,	¼ cake (2 oz.)	30
unfrosted		
Banana bread	1 slice (2 oz.)	30
Brownie, with frosting	.2 oz.	40
Brownie, without frosting	.2 oz.	40
Cake,		
frosted	1 piece (2 oz. or 2" square)	40
unfrosted	1 piece (2 oz. or 2" square)	40
cake bite/pop	1 small	20
Candy, hard	3 candies	15
Cookie,		
fortune	3 small	15
gingersnaps	3 cookies 1" diameter	15
homemade, all types	1 small 2" diameter (1 oz.)	20
Lorna Doone®	3 cookies	15
sandwich with cream filling	2 small 1" diameter	15
Caramel apple	1 large apple	75
Cinnamon roll,	1 roll (3 oz.)	45
with frosting		
Donut,		
glazed	1 small 3" diameter (2 oz.)	30
plain	1 donut 3" diameter (2 oz.)	30
Fiddle Faddle®	¾ cup (1 oz.)	22
caramel popcorn		
Frozen yogurt		
no sugar added	½ cup	20
regular	½ cup	25
Fruit juice bars, frozen	1 bar	15
Gelatin,		
regular	½ cup	18
sugar-free	½ cup	0
Hostess®,		
Ding Dong®	1 cake	24
Fruit pie®	1 pie	70
Ho Ho's®	1 cake	17
Twinkie®	1 cake	27
Zinger®	1 cake	26
Ice cream,		
light or fat free	½ cup	20
regular	½ cup	20
regular with toppings	½ cup	20–25
Pie,		
chocolate cream	¼ of 8" pie	40
fruit filling with 2 crusts	¼ of 9" pie	45
pumpkin or custard filling	¼ of 8" pie	30
Pudding,		
regular	½ cup	30
sugar-free	½ cup	15
Sherbet, sorbet	½ cup	30





Vegetable Group

For the most part, you can eat as many vegetables as you want. However, you may have noticed that some vegetables are called “starchy vegetables” and are included in the starch group instead of the vegetable group. These vegetables are much higher in carbohydrate than other vegetables and cannot be eaten as freely as the vegetables in this section. The vegetables listed in this section have some carbohydrates, but not a lot (5 grams per ½ cup cooked or 1 cup raw). Vegetables are full of vitamins and minerals, so they are very nutritious, and because they are relatively low in carbohydrates, they are great to eat anytime.

NUTRITION TIPS

1. For a diet rich in vitamins A and C, choose more dark green and dark yellow vegetables, such as spinach, broccoli, romaine, carrots, chilies and peppers. Vitamin A helps maintain healthy skin, teeth, and promotes good night vision. Vitamin C is important in the growth and repair of tissues in your body and acts as an antioxidant.
2. Vegetables are a good source of dietary fiber. Fiber cannot be broken down by the body, which increases the bulk and softens stool and can lower cholesterol.
3. Vegetables are naturally low in calories—if you are careful not to top them with a lot of butter, sour cream, cream soups, or cheese sauces.

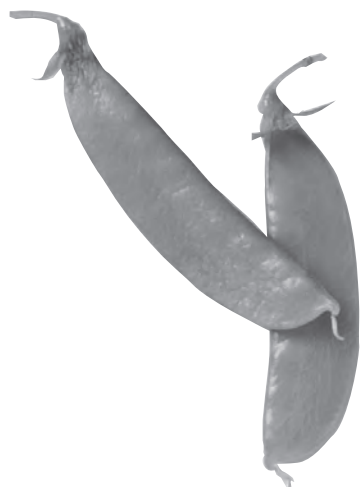
SELECTION TIPS

1. Starchy vegetables such as corn, peas, winter squash and potatoes contain more calories and grams of carbohydrate, and are found in the starch group.
2. If you eat 3 cups or more of raw vegetables or 1½ cups of cooked vegetables at one meal, count them as 15 grams of carbohydrate.

EASY WAYS TO EAT YOUR VEGETABLES

- Keep frozen and canned vegetables on hand to know you always have vegetables ready.
- Make double and triple portions; eat a serving one day and have one ready-to-go for the next.
- Blanch (quick cook and chill) a head of broccoli or cauliflower, break it into pieces, place in a plastic container and have a ready supply for the week, hot or cold.
- Keep a bag of pre-cut or baby carrots around—grab a handful as a snack, pack them with lunch, throw them into stew, or microwave them for a quick vegetable.
- Microwave or sauté onions and peppers to put more vegetables into a tomato sauce.





- Toss extra sautéed vegetables on a frozen pizza.
- Make a big salad to last a few days and store it in the refrigerator in a plastic container.
- Add vegetables into sandwiches—not just the old lettuce and tomato; try alfalfa sprouts, sliced red onion, sliced cucumbers, sliced yellow squash or zucchini, red peppers, or leftover grilled vegetables.
- Add vegetables to an omelet or scrambled eggs—sauté onions, peppers, mushrooms, tomatoes and add some fresh herbs.
- Drink low-sodium tomato or V-8® juice as your vegetable.
- In a tomato sauce, cut the amount of meat you use in half and add more vegetables—onions, peppers, mushrooms, eggplant, zucchini or others.
- Look for prepackaged vegetables at the convenience or grocery store.

VEGETABLES

These vegetables are all equal to 5 grams of carbohydrate for ½ cup cooked or 1 cup raw, with exceptions noted.

Artichoke	Mixed vegetables (without corn, peas or pasta)
Artichoke hearts	Mushrooms
Asparagus	Okra
Beans (green, Italian, wax)	Onions
Bean sprouts	Pea pods
Beets (1 cup of cooked or raw equals 15 grams of carbohydrate)	Peppers (all varieties)
Broccoli	Radishes
Brussel sprouts	Salad greens (endive, escarole, lettuce, romaine, spinach)
Cabbage	Sauerkraut
Carrots (1 cup of cooked or raw equals 10 grams of carbohydrate)	Spinach
Cauliflower	Summer squash
Celery	Tomatoes
Cucumber	Tomatoes, canned
Eggplant	Tomato sauce
Green onions or scallions	Tomato / Vegetable juice
Greens (collard, kale, mustard, turnip)	Turnips
Jicama	Water chestnuts
Kohlrabi	Watercress
Leeks	Winter squash (butternut, spaghetti)
	Zucchini



Fruit Group (including fruit juices)

Like vegetables, fruits are very nutritious, but fruits contain natural sugars and higher amounts of carbohydrates than vegetables. Fruits in general do not affect blood sugar any differently than other sources of carbohydrate (a small apple and a slice of bread do the same thing). You should pay attention to which fruits raise your child's blood sugar levels more than others, though, and then use fruits in appropriate situations. But don't be afraid to have your child eat fruits—they are great foods that provide a healthy, sweet treat—just pay attention to the amount of carbohydrates they contain. Unlike some vegetables, they are not free food choices.

NUTRITION TIPS

1. Citrus fruits, berries, and melons are good sources of vitamin C. Vitamin C is important in the growth and repair of tissues in your body and acts as an antioxidant.
2. Fresh, frozen, and dried fruits have about 2 grams of fiber per serving.

SELECTION TIPS

1. Always check the nutrition facts on the food label to determine serving size and grams of carbohydrate.
2. Portion sizes for canned fruits include the fruit and a small amount of juice.
3. Whole fruit is more filling than fruit juice and may be a better choice when hungry.
4. Food labels for fruits may contain the word "no sugar added" or "unsweetened." This means that no sugar has been added.
5. Fruit canned in extra light syrup has the same amount of carbohydrates per serving as the "no added" or the juice pack. All canned fruits on the fruit list are based on one of these packages.
6. Weigh the portion of fruit you are going to eat. You do not need to weigh the rind or the core if you are not planning to eat those.



EASY WAYS TO EAT FRUIT

- Put slices of banana or peaches on cold cereal.
- Toss a few raisins, pieces of apple, dried apricot, or pineapple chunks on a salad.
- Toss fruit into entrees—pineapple in stir-fry or on make-your-own-pizza, fresh or dried cranberries or peaches in chicken, or apricots or apples in pork dishes.
- Combine fruit with vegetables—crushed pineapple in coleslaw, raisins in carrot salad, make a Waldorf salad with apples, raisins, walnut and celery.
- Serve fruit with the main course—applesauce with pork chops or roast, pineapple with ham, low-sugar cranberry sauce with chicken.
- Grill fruit on skewers and serve as dessert with a few ginger snaps or vanilla wafers or serve as part of the main course.
- Add dry fruit (such as raisins, apricots, or apples) when cooking hot cereal.
- Keep a plastic container full of cut-up fruit—have some at breakfast or for a snack topped with plain or fruited, nonfat, sugar-free yogurt (to get a bit more calcium).
- Take one or two pieces of fruit from home each day to eat with lunch, as an afternoon snack, or on your way home to knock the edge off your appetite.
- Keep dried fruit such as raisins, figs, apricots, peaches, and pears around—use it for a snack, try it as fuel for long hikes or bike rides, or stash in your desk or locker. However, don't eat the whole bag at once—the calories and carbohydrate in dried fruit add up quickly because they are concentrated.

Food	Serving Size	Carbohydrate Grams
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FRUIT

Apple, dried	5 rings	20
unpeeled	1 medium (6 oz.)	22
Applesauce, ...	½ cup	15
unsweetened		
Apricot, dried	8 halves	15
fresh	1 medium (2 oz.)	6
Banana	1 medium (5 oz.)	27
Berries, whole	½ cup (2½ oz.)	10
unsweetened		
blackberries	½ cup (2 ½ oz.)	7
blueberries	½ cup (2 ½ oz.)	10
boysenberries	½ cup (2 ½ oz.)	8
raspberries	1 cup (4 oz.)	15
strawberries	18 medium or 9 large, 1 cup (5 ½ oz.)	12
Cantaloupe	½ medium (6 oz.)	15
	1 cup pieces / balls	
Cherry, canned, unsweetened	½ cup	15
fresh	8 fruit (2 oz.)	10
Dates	5 medium (1½ oz.)	30
Fig, dried	3 medium (1 oz.)	23
fresh	1 medium (2 oz.)	10
Fruit cocktail, ...	½ cup	15
in light syrup		
Grapefruit	½ fruit (10 oz., 6 oz. flesh)	15
Grapes	15 medium, ⅔ cup (3 oz.)	18

Food	Serving Size	Carbohydrate Grams
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Honeydew melon	1 slice, 1 cup cubes (6 oz.)	15
Kiwi	1 medium (2½ oz.)	10
Mandarin oranges, canned	½ cup	15
Mango, no skin	1 small, ½ cup (3 oz.)	15
Nectarine	1 small (4 oz.)	12
Orange	1 medium (7 oz.)	20
Orange, clementine/cutie	1 orange	9
Papaya	½ fruit, 1 cup cubes (5 oz.)	15
Peach, canned, in light juice	½ cup	15
fresh	1 medium (3 oz.)	10
Pear, canned, in light juice	½ cup	15
fresh	½ fruit (4 oz.)	13
Pineapple, canned, unsweetened	½ cup	15
fresh, no skin	¾ cup (4 oz.)	15
Plums, canned, unsweetened	½ cup	15
fresh	2 small (5 oz.)	15
Prunes, dried	3 each	15
Raisins	2 Tbsp.	15
Raspberries, whole, unsweetened	1 cup (4 oz.)	15
Strawberries, whole	18 medium or 9 large	12
unsweetened	1 cup (5½ oz.)	
Tangerines	1 medium (4 oz.)	13
Watermelon	1 small slice, 1 cup cubes (5½ oz.)	10



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Food	Serving Size	Carbohydrate Grams
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Food	Serving Size	Carbohydrate Grams
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.....
FRUIT JUICE

Apple juice / cider	½ cup	15
Cranberry juice cocktail	½ cup	15
Fruit juice blends, 100% juice	½ cup	15
Grape juice	½ cup	20

Grapefruit juice	½ cup	10
Orange juice	½ cup	15
Pineapple juice	½ cup	15
Prune juice	½ cup	15





Milk Group

Children with diabetes need protein and calcium for growth just like other children, and the milk group is an important way to get both. Try to be creative with your foods from the milk group.

NUTRITION TIPS

1. Milk and yogurt are good sources of calcium and protein.
2. The higher the fat content of milk and yogurt, the greater the amount of saturated fat and cholesterol.
3. For those with lactose intolerance, look for lactose-reduced or lactose-free varieties of milk.

SELECTION TIPS

1. One cup equals 8 fluid ounces or ½ pint.
2. Cheese is found in the protein group, not in this group.
3. Ice cream and frozen yogurt are “snacky carbohydrates,” found in the starch group.

Easy ways to get more milk and yogurt

- Eat hot cereal, use milk to substitute for at least half (if not all) the water; use more milk on the cereal as you eat it.
- Eat more high-fiber dry cereal, it is a way to drink more milk and get a good boost of fiber. Don’t limit cereal and milk to breakfast: it can be a quick and easy lunch or dinner. It is a great way to work in another fruit serving.
- Blend together fruit with milk or yogurt to make a tasty shake for a quick snack. Put a serving of milk or yogurt in a blender, toss in a serving of fruit—banana, strawberries, or peaches, add a bit of extract, vanilla or maple—blend it up and sip it down.
- Create your own yogurt combo—take plain yogurt or frozen yogurt and toss in Grape Nuts® or granola cereal, dried fruit, diced dried apricots, apples, or pears. A few (not too many) nuts can add good crunch.
- Drop a few tablespoons of refrigerated yogurt on fresh or canned fruit.
- Use plain yogurt as a substitute for sour cream on baked potatoes. Mix in fresh herbs, garlic, Dijon mustard, cayenne or curry (or any combination) for some extra kick.
- Make yogurt cheese by “hanging” yogurt over cheesecloth or coffee filter and a strainer. Make it the thickness of cream cheese and add some no-sugar jelly to spread on bagels or toast.





- Keep containers of yogurt in the refrigerator to use as a quick and convenient snack or part of a meal.
- Add dry milk to recipes where the taste will blend in—meatloaf or meatballs, soups, casseroles, gravies.
- Add milk or dry milk to eggs mixed for scrambled eggs, omelettes, or French toast.

Food	Serving Size	Carbohydrate Grams
MILK, FAT-FREE AND LOW-FAT		
Buttermilk,		
fat-free, low-fat	1 cup	12
Evaporated fat-free	½ cup	15
Fat-free	1 cup	12
Kefir, plain	1 cup	12
Milk		
½%	1 cup	12
1%	1 cup	12
Soy milk,		
Plain	1 cup	5
Flavored	1 cup	25
Yogurt,		
regular	1 container (6 oz.)	30-35
lite.	1 container(6 oz.)	15-20
plain nonfat	1 cup	15
Greek, flavored	1 container (5.3 oz.)	20
Greek, non-flavored	1 container (5.3 oz.)	15

Food	Serving Size	Carbohydrate Grams
MILK, REDUCED-FAT		
5 grams of fat per serving		
Milk 2%	1 cup	12
Yogurt 2%	1 cup	12
MILK, WHOLE		
8 grams of fat per serving		
Chocolate	1 cup	28
made with skim, whole, 1%, 2%		
Evaporated, whole	½ cup	15
Goat's, whole	1 cup	12
Whole.	1 cup	12





Protein Group

Protein is slow-acting—it raises blood sugar 3–4 hours after it is eaten. It is important to have a serving of protein at each meal and especially at the bedtime snack. Serving sizes of protein do not need to be closely monitored, but the amount of fat in the protein is important for health reasons. Based on the amount of fat they contain, meats are divided into different groups. Lots of bacon, sausage, or American cheese are not a great way to get protein. Instead, try to choose from the lower-fat list below. You will actually find some of those high-fat protein foods also listed under the fat group too!

NUTRITION TIPS

1. Beans, peas, and lentils are good sources of protein and fiber.
2. Select lean meats whenever possible.
3. Some processed meats, seafood, and soy products may contain carbohydrate when eaten in large amounts.

SELECTION TIPS

1. Four ounces of raw meat without bones and fat is equal to three ounces of cooked meat.
 - 1 ounce of cheese is about the size of 4 dice.
 - 3 ounces of meat is about the size of a deck of cards.
 - 2 ounces of meat equals a small chicken leg or ½ cup cottage cheese or tuna.
 - 3 ounces of meat equals 1 medium pork chop or 1 small hamburger or ½ ounce of a chicken breast.
2. Select grades of meat that are the leanest meats. Lean meats include skinless poultry and fish. Look for the words “loin” or “round” for leaner cuts of beef.

Easy ways to eat protein in a healthy way

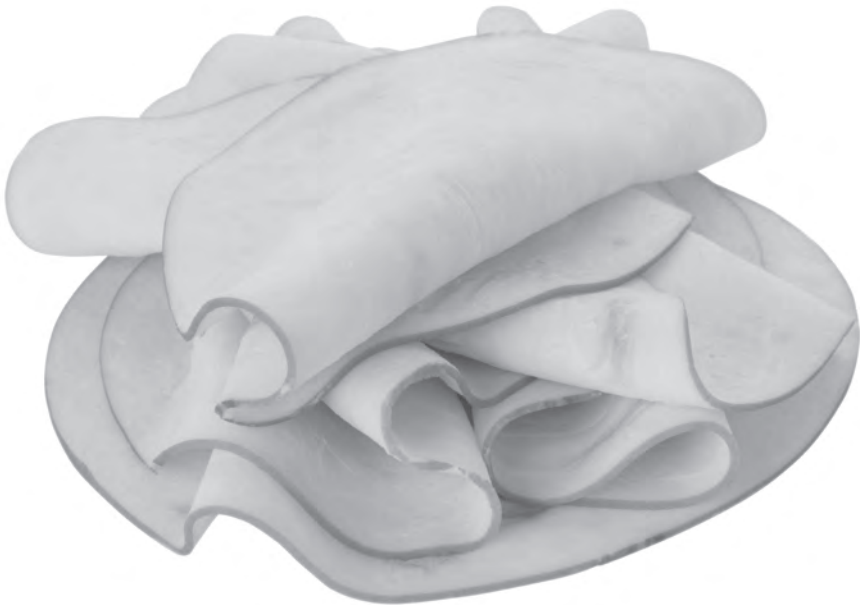
Foods higher in fats are often higher in calories. Use these tips to lower the fat content in the proteins you eat:

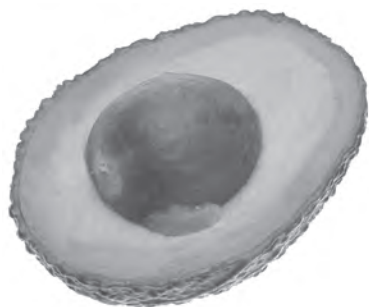
- Bake, roast, broil, grill, poach, steam, or boil meats rather than frying.
- Place meat on a rack so that fat will drain off during cooking.
- Use a nonstick spray or pan to brown or fry foods.
- Trim off visible fat before or after cooking.
- Mozzarella cheese sticks or peanut butter are a great low-fat, high-protein snack.
- Use sharp, flavorful cheeses in mixed dishes. You will be able to use half as much as a medium or mild cheese and still have it be as flavorful.



Food	Serving Size	Carbohydrate Grams
MEATS AND HIGH-PROTEIN FOODS		
Beans, lentils	½ cup cooked	20
Beef, (not breaded or sauce)		
all types,	1 oz.	0
Cheese,		
all types, low-fat, regular	1 oz.	0
cottage, low-fat	½ cup	4
cottage, whole-fat	½ cup	5
fat-free	1 oz.	2
Chicken,		
nuggets,	6 pieces	15
patty, breaded	1 patty	10–15
strips	3 pieces	15
Corn dog	1	20–25
Eggs, egg whites,		0
egg substitute		
Fish, (not breaded or sauce)	1 oz.	0
all types of canned, fresh, frozen,		
Fish sticks, breaded	2 sticks (2 oz.)	12
Game, (not breaded or sauce)	1 oz.	0
duck, pheasant, venison, buffalo, ostrich		

Food	Serving Size	Carbohydrate Grams
MEATS AND HIGH-PROTEIN FOODS (CONTINUED)		
Ham, (not breaded or sauce)		
all types	1 oz.	0
Hot dogs	1½ oz.	0
Lamb	1 oz.	0
Miso, paste	1 Tbsp. (¼ oz.)	5
Peanut butter,		
low-fat	2 Tbsp.	15
regular.	2 Tbsp.	5
Pork, (not breaded or sauce)		
all types	1 oz.	0
Poultry, (not breaded or sauce)		
chicken, duck, goose, turkey	1 oz.	0
Meat, processed sandwich	1 oz.	0
Tempeh	1 piece (3 oz.)	12
Tofu	4 oz.	3
Veal	1 oz.	0





Fat Group

Fat does not directly affect blood sugar, so serving sizes of fat do not need to be closely measured. Fat is not usually restricted for children with diabetes because it is an important source of calories for growth. For overall health, though, avoid eating too many foods that are high in fat.

NUTRITION TIPS

1. All fat foods are high in calories. Limit serving sizes for good nutrition and health.
2. One serving of fat is equal to 5 grams.

SELECTION TIPS

1. Check the nutrition facts on food labels for serving sizes. One fat serving is based on a serving size containing 5 grams of fat.
2. Select butter or soft margarine with liquid vegetable oil as the first ingredient. Soft margarines are healthier choices. Avoid margarines listing hydrogenated or partially hydrogenated fat as the first ingredient.

Monounsaturated fats are known as the good guys.

Monounsaturated fats offer the benefit of lowering total cholesterol, while not decreasing the body's good cholesterol (HDL).

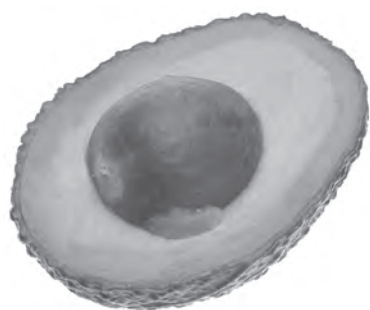
How to tank up on monounsaturated fats

- Stock canola and / or olive oil in your cupboard. Use these oils to sauté, cook, prepare salad dressing or bake.
- Throw a few nuts on foods—salads, desserts, stir-fries.
- Use a slice or two of avocado on a salad, to a casserole, or for guacamole as a Mexican topping.
- Use a few olives on a relish plate, in a salad, or as a garnish.
- Buy canola- or olive oil-based commercial salad dressings, canola-based margarine and mayonnaise, or make your own with olive or canola oil.

Easy ways to spare and skim the fat

- Buy the low-fat, light, and fat-free products that taste good to you. You might have to experiment with several—margarine, butter (or blends), cream cheese, cottage cheese, mayonnaise, and sour cream. Remember, these products are not calorie-free. Be sure to read the Nutrition Facts label to learn more about the product.
- Buy the low-fat, reduced-calorie, or fat-free dressing that has the taste you like. No matter what salad dressing you use, don't pour on too much. Remember, a $\frac{1}{4}$ of a cup can contain as many carbohydrates as a slice of bread.





- Use low or no-sugar jelly or jam instead of margarine or cream cheese on bagel, toast, or muffins.
- Use plain, fat-free yogurt or fat-free sour cream instead of regular sour cream—add herbs and seasonings to make it tasty. Use it on baked potatoes, vegetables, chicken and fish.
- Always keep fresh lemon and lime on hand to squirt on vegetables and fish at the table instead of adding more fat (such as sauces or butter).
- Use fat-free or 1% milk for healthy kids over age 2.
- Take advantage of light and reduced-fat cheeses. Find out which products you like best. Sometimes you just need to use less of the regular to get the taste you enjoy.

Food	Serving Size	Carbohydrate Grams
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MONOUNSATURATED FAT FOODS

Avocado	1/8 medium (1 oz)	0
Oil, canola, olive, peanut	1 tsp.	0
Olives, black (ripe)	8 large	0
green stuffed	10 large	0
Nuts, almonds	1 oz.	5
cashews	1 oz.	9
mixed	1 oz.	6
pecans	1 oz.	5
pine nuts	1 oz.	4
pistachios	1 oz.	7
walnuts	1 oz.	4
Peanut butter, low-fat	2 Tbsp.	15
regular	2 Tbsp.	5
Peanuts	10 nuts (1 oz)	5
Seeds, sesame	1 Tbsp.	0
sunflower, pumpkin	1 oz.	5

POLYUNSATURATED FAT FOODS

Hollandaise sauce	2 Tbsp.	4
Margarine, (30% to 50% vegetable oil) lower-fat	1 Tbsp.	0
stick, tub, squeeze	1 Tbsp.	0
Mayonnaise, reduced-fat	1 Tbsp.	0
regular	1 Tbsp.	0

Food	Serving Size	Carbohydrate Grams
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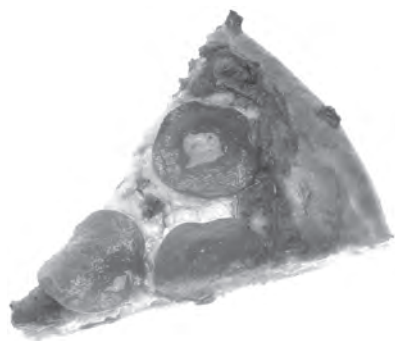
POLYUNSATURATED FAT FOODS (CONTINUED)

Oil corn, safflower, soybean	1 tsp.	0
Salad dressing, reduced-fat	2 Tbsp.	7
regular	2 Tbsp.	2
Tartar sauce	2 Tbsp.	4
Miracle Whip salad dressing, reduced-fat	2 Tbsp.	6
regular	2 Tbsp.	4

SATURATED FAT FOODS

Bacon, cooked	1 slice	0
grease		0
Butter, reduced-fat, stick, tub	1 tsp.	0
Coconut, shredded	1/4 cup	7
sweetened		0
Cream, half and half	2 Tbsp.	0
Cream cheese, reduced fat	2 Tbsp. (1 oz.)	4
regular	2 Tbsp. (1 oz.)	2
Gravy, homemade, thick	1/4 cup	8
prepared from a mix	1/4 cup	4
Neufchatel cheese	2 Tbsp. (1 oz)	1
Shortening or lard	1 tsp.	0
Sour cream, reduced-fat	2 Tbsp.	2
regular	2 Tbsp.	1





Combination Foods Group

Many of the foods we eat are mixed together in various combinations. These combination foods do not fit into any one list. Always check the Nutrition Facts label on packages to figure out the serving size and grams of carbohydrate per serving. The amount of carbohydrates will vary from brand to brand. The food label is the most accurate source of information.

Commercial Entry	Serving Size	Carbohydrate Grams
------------------	--------------	-----------------------

COMBINATION FOODS

Beef stew	¾ cup	15
Beef stroganoff, with noodles	¾ cup	25
Burrito, bean	6 oz.	60
beef	6 oz.	50
Chili con carne	½ cup	15
Chop Suey, vegetable	½ cup	3
Chow mein, with meat	1 cup	10
Chow mein noodles	½ cup	20
Enchilada, made with cheese and meat	6 oz.	30
French toast	1 slice	15
Hamburger Helper®, ...	1 cup	30
Lasagna, meat	1 cup	30
vegetable	1 cup	35
Macaroni & Cheese	½ cup	25
Pizza, thick crust	1 medium slice	35–45
thin crust	1 medium slice	15–25
Pork and Beans	⅓ cup	15
Pot Pie	1 (7 oz.)	30
Spaghetti with sauce	½ cup	25
Spanish rice	½ cup	20–25
Ramen Noodle®	1 package	52
Tuna casserole	½ cup	20

Commercial Entry	Serving Size	Carbohydrate Grams
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SOUPS

Clam chowder, Manhattan style	½ can (10 oz.)	15
Cream of chicken	½ can (10 oz.)	9
Cream of mushroom	½ can (10 oz.)	9
Minestrone	½ can (10 oz.)	15
Noodle soup, beef, chicken, turkey	½ can (10 oz.)	10
Tomato soup, made with milk	½ can (10 oz.)	23
made with water	½ can (10 oz.)	15
Vegetable soup, beef, chicken, turkey	½ can (10 oz.)	10

READY-TO-EAT SOUPS

Bean with bacon	½ can (10 oz.)	30
Beef	10 oz. can	23
Chicken vegetable	10 oz. can	23
Green pea	½ can (10 oz.)	30
Sirloin burger	10 oz. can	23
Split pea with meat	½ can (10 oz.)	30
Stroganoff style	10 oz. can	28
Vegetable beef	10 oz. can	20



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This list shows average amounts for most fast foods. The *Nutrition in the Fast Lane* book has a much larger list of fast foods, so please use that as a resource as well.

Food	Serving Size	Carbohydrate Grams
.....		
FAST FOODS		
Burrito, beef	1	50
Chicken breast and wing, battered and fried	1	15–20
Chicken nuggets	6	15
Churro	small (1½ oz.)	20
Cotton candy	1 oz.	28
Fish sandwich	1	45
French fries.	15 to 20 (3 oz.)	30
Hamburger, large bun	1	45
regular.	1	25–30
Hot dog with bun	1	20
Nacho chips with cheese.	1 small order	30
Pizza, individual pan	1	75
slice	1	25–30
Pretzel, Pretzel Maker®.	1	75
Soft serve cone	1 medium	30

Food	Serving Size	Carbohydrate Grams
.....		
FAST FOODS (CONTINUED)		
Submarine sandwich.	1–6".	45
Taco, hard shell	2	15
soft shell.	1	15–20
Tater tots	6 pieces (2 oz.)	15

Food	Serving Size	Carbohydrate Grams
.....		
CONDIMENTS/SAUCES		
Honey	1 Tbsp.	15
Jam or jelly, low sugar, light	1 Tbsp.	5
regular	1 Tbsp.	15
Ketchup	1 Tbsp.	5
Mustard	1 tsp.	0
Sauce barbecue	1 Tbsp.	4
fry	2 Tbsp.	12–14
spaghetti	½ cup	20
steak	1 Tbsp.	5
sweet & sour	2 Tbsp.	15
Sugar	1 Tbsp.	12
Syrup, light	¼ cup	26
regular	¼ cup	52



Chapter 6

The Carbo-Smart Cookbook



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Chapter 6

The Carbo-Smart Cookbook

This chapter is devoted to recipes and tips that help you manage your child's diabetes, eat healthily, and have great tasting food. We call it *The Carbo-Smart Cookbook* to remind you that a meal plan for children with diabetes must account for carbohydrates. This cookbook gives you the exact amount of carbohydrates found in each recipe. You can use this chapter together with Chapter 5: *Think Fast and Eat Well* to make your own meals and answer all your questions about how many carbohydrates are found in the foods you eat everyday. Also be sure to check out the *Nutrition in the Fast Lane* book for more information, and always check the nutrition facts on food packages. Happy eating!





A Note on Sweeteners

Alternatives to sugar have been used in American food for over 100 years. As of December 2014, acesulfame-K, aspartame, neotame, saccharin, sucralose, and stevia are all approved for use in the United States and are used in many products. These products can offer lower-carbohydrate and lower-calorie options of popular foods. These products include: table-top sweeteners, baked goods and baking mixes, chewable multivitamins, hot and cold cereals, chewing gum, gelatins, pudding and fillings, carbonated beverages, ice cream, candy, desserts, salad dressing, and canned foods.

Acesulfame K (Ace-K) was discovered in 1967 and was approved for use in 1988. It is about 200 times sweeter than sucrose. Acesulfame K has a clear, quickly perceptible sweet taste that does not linger or leave an aftertaste. Ace-K is not metabolized by the body and is excreted unchanged. It is sold under the brand name Sunette® and Sweet One®.

Ace-K has a high degree of stability under a wide range of pH and temperature storage conditions. The sweet taste of acesulfame K remains unchanged during baking. Baking with Ace-K will produce similar products as those made with saccharin; however, it is reported to have a better flavor and less aftertaste.

Aspartame, was approved by the Food and Drug Administration in 1981 and is now a part of hundreds of foods and beverages. Aspartame is a low-calorie sweetener that is 180 times sweeter than sucrose. It is sold in the United States under the brand name Equal®.

Aspartame is a nutritive sweetener (it contains calories), but very small amounts are needed for a sweet taste. By substituting aspartame for sugar in foods and beverages, calories can be reduced substantially, and in many products, practically eliminated. It is not recommended to use aspartame in baking, especially at high temperatures for long periods of time, because it will produce a bitter flavor.

Neotame is between 7,000 and 13,000 times sweeter than sugar. Neotame was approved by the FDA in 2002. Because of its recent approval, neotame is not yet widely used in food products. Neotame is expected to become more prevalent in the food industry because it can lower the cost of production compared to using sugar or high fructose corn syrup.



Saccharin is a non-calorie artificial sweetener that is 300 times sweeter than table sugar. Saccharin is the oldest alternative sweetener in the United States. It is not heat stable, so it cannot be baked into



products but it stores well since it does not react with other foods. High amounts can have a metallic aftertaste when eaten. Saccharin is sold under the brand name Sweet'n Low® and is commonly found in pink packets.

Sucralose (Splenda®) is a sweetener that is made from modified sugar and does not have calories. You can use it in place of sugar in virtually all foods. The sucralose molecule is very stable, and it is not broken down in your body. You can buy reduced-calorie foods and beverages sweetened with sucralose, such as soft drinks, juices and dairy products.

Stevia was approved for use by the Food and Drug Administration in 2008 but has been used as a sweetener for decades in Japan. Stevia is up to 200 times sweeter than sugar. This sugar substitute is extracted from the leaves of a plant and is popular since it occurs naturally. Stevia is heat stable and can be used in baking. Some extracts may have a bitter licorice aftertaste. Stevia is sold under the brand name Truvia® and PureVia®.



Nutritive Sweeteners are sweeteners that contain calories and are considered types of carbohydrate. There are some nutritive sweeteners that have attributes that make them helpful to use as substitutes for sucrose or table sugar. This group includes both fructose, high fructose, corn syrup, agave, and sugar alcohols.

Fructose is a type of carbohydrate that contains the same number of calories per teaspoon as sugar, but is used as a substitute for sugar because of its intense sweetening ability. This means that you can use smaller amounts of fructose than sucrose in a recipe to get the same amount of sweetness.

High Fructose Corn Syrup, HFCS, is a sweetener where fructose replaces some glucose molecules. Fructose has the same blood glucose response as sugar. HFCS is lower in cost than sugar and it is commonly found in processed foods. Many foods that contain high fructose corn syrup are not nutrient-dense. HFCS and sugar consumption has been thought to contribute to obesity and insulin resistance. Excessive intake of foods containing HFCS could provide a lot of calories but not many nutrients. Lower consumption of foods with HFCS could be beneficial to ensure you are getting enough vitamins and minerals without excessive calories.

Agave nectar is a sweetener that comes from a flowering plant similar to a yucca that grows in and around Mexico. Most of the agave nectar sold in stores comes from the blue agave plant that has been highly processed. Agave is 1.5 times sweeter than sugar, so less is needed in baking. However, agave still has carbohydrates and is listed as a “sweetener to limit” by the American Diabetes Association, along with sweeteners like table sugar, brown sugar, and maple syrup.



Sugar Alcohols

Another name for this category of sweeteners is polyols. They can be recognized easily on food labels because most of them end in “ol.” Some that are included in this category are lactitol, mannitol, sorbitol, and xylitol. Isomalt and hydrogenated starch hydrolysates are two polyols that don’t end in “ol.” Sugar alcohols are considered a source a carbohydrate, but have a lower calorie count than other carbohydrates. So this is how you count sugar alcohols:

1. If the sugar alcohol amount is less than 10 grams, do not subtract the sugar alcohol from the total carbohydrates. Count the total carbohydrates like you normally do. If the sugar alcohol is 10 grams or greater, proceed to step 2. (This food label for this bar has 12 grams of sugar alcohol, which is >10 grams of sugar alcohol, so we will proceed to step 2 instead of counting the total carbohydrates.)
2. If over 10 g of sugar alcohol are present, like in the corresponding label, divide the sugar alcohol amount by two. (There are 12 g of sugar alcohol on this label, divided by 2 = 6 grams.) Proceed to step 3.
3. Take the total carbohydrates and subtract the value you calculated in step 2 to get the adjusted total carbohydrate value. (The total carbohydrates are 20 g, minus the 6 grams calculated in step 2 = 14 grams of adjusted total carbohydrates. For this product, because it has a sugar alcohol amount greater than 10 grams, you would only take insulin for 14 grams of carbohydrate instead of 20 grams of carbohydrate.)

NUTRITIONAL FACTS	
Serving Size: 1 Bar 80g	
Amount Per Serving	
Calories 271	
Calories from fat 60	
	% Daily Value
Total Fat 7g	11%
Saturated Fat 5g	23%
Cholesterol 15mg	3%
Sodium 160mg	12%
Total Carbohydrate 20g	9%
Dietary Fiber 3g	4%
Sugars 1g	
Sugar Alcohol 12g	
Protein 32g	61%
*Daily Value not established	

Be aware that too much of the sugar alcohols may cause intestinal side effects such as diarrhea, cramping, or abdominal pain. Be moderate with the number of foods containing sugar alcohols that are eaten in a day.

The conversion chart for sweeteners will help you modify recipes and convert sugar to alternative sweeteners. It may also be helpful to use fruits when cooking to enhance the flavor and texture of your products. You will need to experiment with different sweeteners to determine which to use with different foods.

You might not see the product names on the sweeteners you use. Instead, you will most likely recognize the brand names. Often, these use the alternative sweeteners in a less concentrated form, so a packet of Equal® is not 180 times as sweet as a packet of sugar (it's only twice as sweet) even though it uses aspartame. Here are some common brand names and what sweeteners they use:

- Equal® (aspartame)
- Purevia ® (stevia)
- Splenda® (sucralose)
- Sunett ® (acesulfame K)
- Sweet One® (acesulfame K)
- Sweet'n'Low® (saccharin)
- Truvia®

Sweetener Conversion Chart

Sugar	Equal® Packets Aspartame	Sweet'n Low Packets Saccharin	Splenda Packets Sucralose	Sweet One Packets Acesulfame	Truvia Packets Stevia
2 teaspoon	1 packet	½ packet	1 packet	½ packet	½ packet
1 tablespoon	1½ packets	1 packet	1½ packets	1 packet	1 packet
¼ cup	6 packets	3 packets	6 packets	3 packets	3 packets
¾ cup	12 packets	4 packets	12 packets	4 packets	4 packets
½ cup	18 packets	6 packets	18 packets	6 packets	6 packets
1 cup	24 packets	12 packets	24 packets	12 packets	12 packets



Snacks

For children and adolescents snacks often provide the calories and nutrients they need in order to grow. The age of a child determines when they may need a snack to satisfy their hunger needs. Most kids of all ages need an after-school snack. Depending on the age of the child, they may need also a mid-morning or bedtime snack. It is important for families to have scheduled snack-times that are the same for the kids with or without diabetes in the home. “Grazing” or unlimited snacking between scheduled meals and snacktimes should be limited or avoided for everyone in the home. This will help your child with diabetes avoid having to take multiple shots between meals or risk having high blood glucose levels with food that is not covered by extra insulin between meals.

Most parents send a snack box with their child to be kept at school. This snack box can include snacks that can be used for increased activity days or to treat low blood glucose levels. Holiday and birthday treats create additional challenges at school for children with diabetes. See the section in this cookbook, “Holidays and Special Occasions” to get more snack ideas for these times.

TIPS

Often it is easier to open a box of crackers, cookies, or chips rather than fix a healthy, nutritious snack. Here are some tips and recipes to give you some new snack ideas:

- Plan ahead: put snacks together while preparing meals
- Eat snacks between meals and not too close to meal times
- Keep raw vegetable sticks and sugar-free gelatin on hand
- Have a spot in the refrigerator and cupboard for snacks
- Read the label on packaged items to make sure you’re using the correct serving size
- Pick low-fat snacks like bread, graham crackers, bagels, etc.

..... **SNACKS CONTAINING CARBOHYDRATES**

15 to 30 grams carbohydrate per serving

Fresh fruit – (average serving)
 ½ cup canned fruit
 Fruit roll-up or fruit leather
 Fruit-filled bars
 1 cup milk
 ½ cup fruit juice, juice bars
 ½ cup frozen yogurt
 ½ cup ice cream
 1 cup yogurt-sugar free
 ½ cup sugar-free pudding
 1 oz. serving size bread, dinner roll, muffin
 Soft pretzels (1 oz.)
 ½ bagel (2 oz.)
 3 squares graham crackers
 4 to 6 snack crackers
 2 small cookies
 1 granola bar
 3 cups popped popcorn
 2 rice cakes
 1 oz. chips
 ¾ oz. pretzel sticks
 ½ cup hot cereal
 ¾ cup cold cereal
 ½ cup cereal mix

..... **SNACKS CONTAINING PROTEIN**

Cheese slices
 Cheese cubes and sticks
 String cheese
 Nacho cheese
 Cottage cheese
 Hard-boiled eggs
 Peanut butter
 Tuna fish
 Meat cubes
 Deli meats
 Leftover meats from dinner
 Beef jerky

..... **MIXED SNACKS**

carbohydrate + protein 15 to 20 grams
 carbohydrate per serving

Small slice of pizza, mini pizza or ½ English
 muffin with pizza sauce and melted cheese
 1 oz. nacho chips and cheese
 ½ meat sandwich
 ½ cup pasta with cheese or meat sauce
 1 taco with meat and cheese
 1 oz. soft pretzel with ¼ cup cheese sauce
 1 cheese quesadilla (1 soft shell)
 4 to 6 crackers with 1 oz. cheese sticks
 1 slice toast with 1½ tablespoon peanut
 butter
 ½ pocket sandwich with meat filling
 ½ cup chili or beef stew

OTHER SNACK IDEAS

Cheese, meat, veggie and fruit Shish kabobs — put them on a stick.
 Salad sandwiches — use apples or cucumbers as the bread and fill with
 peanut butter, meat or cheese.
 Ants on a log — spread celery with peanut butter and put raisins on top.
 Roll-ups — flatten bread and spread with peanut butter and jelly. Roll up
 tight, brush with butter and bake at 400 degrees for 15 minutes.
 Frozen grapes — wash grapes and let drain. Place in baggies and store in
 the freezer for a future snack.



Snack Recipes

Cheese Quesadilla

2 6-inch flour tortillas

2 ounces cheese

Spread grated cheese on one tortilla and place the other tortilla on top (like a sandwich). Microwave until cheese is melted (about 30-45 seconds). Serves 2.

One serving = ½ quesadilla

Calories per serving = 200

15 grams carbohydrate

English Muffin Pizza

1 English muffin

2 ounces cheese

1 ounce meat topping

4 tablespoons pizza sauce

Preheat oven to 325 degrees or use toaster oven. Cut English muffin in half and spread each side with pizza sauce. Add cheese, meat and vegetable toppings. Heat in 325 degree oven or in toaster oven until cheese is melted. Serves 2.

One serving = 1 pizza

Calories per serving = 211

18 grams carbohydrate

.....

Party Mix

¼ cup butter
1 teaspoon seasoned salt
2½ teaspoons light soy sauce
¼ teaspoon garlic powder
2 cups Corn Chex®
2 cups Wheat Chex®
2 cups Rice Chex®
1 cup pretzels
1 cup peanuts

Preheat oven to 250 degrees.

Place butter in roaster pan and put in oven until butter is melted.
Add soy sauce and seasonings. Stir to mix.

Add remaining ingredients to roaster pan and stir to coat cereals, pretzels and peanuts with butter and seasonings. Place roaster pan in 250 degree oven for 15–20 minutes, stirring occasionally. Cool and eat. Serves 16.

One serving = 1 cup
Calories per serving = 135
20 grams carbohydrate



Soft Pretzels

1 package frozen dinner roll dough (24 per package)
 1 egg
 1 tablespoon water
 Salt to taste

Thaw dough and place individual dough balls on floured surface. Roll each one into an 18-inch rope. Shape into pretzel and place on cookie sheet sprayed with vegetable spray. Beat egg and add water. “Paint” each pretzel with egg mixture using a pastry brush. Sprinkle lightly with salt. Allow 20 minutes to rise. Preheat oven to 400 degrees. Bake for approximately 12 minutes or until golden brown. Serves 24.

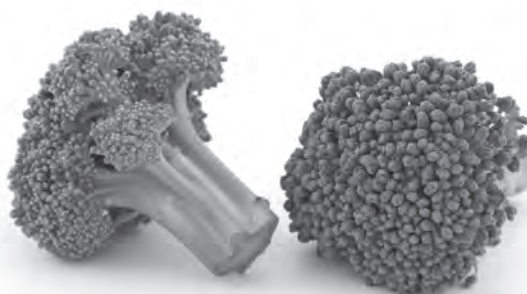
One serving = 1 pretzel
 Calories per serving = 70
 17 grams carbohydrate

Veggie Dip

16 ounces of low-fat plain yogurt or plain greek yogurt
 1 packet (1 oz.) dry ranch dressing

Combine above ingredients and keep refrigerated until used. Great for raw veggies or low-fat crackers. Serves 8.

One serving = ¼ cup
 Calories per serving = 35
 5 grams carbohydrate



Over-the-Counter Snack Guide

Food	Serving Size	Carbohydrate Grams
Cookies		
Animal crackers	8	16
Chips Ahoy®.	2	18
Lorna Doones®.	3	15
Mystic Mint®	2	23
Oreo®	2	15
Teddy Grahams®	15	15
Crackers / Chips		
Doritos®	13 chips (1 oz.)	18
Fiddle Faddle®, caramel popcorn	$\frac{2}{3}$ cup (1 oz.)	22
Goldfish crackers®	55 pieces (1 oz.)	20
Popcorn.	3 cups.	15
Pretzels, tiny twists	20	25
Pringles®	14	15
Quaker rice cakes®	2 cakes	15
Bars		
Balance bar®.	1	24
Fiber-One bar	1	19–22
Fruit roll up	1	15
Fruit snacks	1 pouch (1 oz.)	19
Welch's®, Treetop®, Motts®		
Glucerna®.	1	24
Nature Valley granola®	1	17
Nutrigrain cereal bar®	1	27
Quaker chewy bar®	1	22
Snack Well granola bar®	1	22
Z-bar®	1	22



Drinks and Syrups

Banana Malted Shake

- 1 pint (2 cups) nonfat vanilla or chocolate ice cream (regular or no sugar added)
- 1 banana, cut into chunks
- ½ cup skim milk
- 3 tablespoons malted milk powder

Combine all ingredients in blender and blend on high until smooth. Pour into chilled glasses and serve immediately. Serves 4.

One serving = 6 ounces or ¾ cup
 Calories per serving = 150
 31 grams carbohydrate

Berry Shake

- 1 cup skim milk
- 2 packets Equal®
- 1 cup frozen berries (strawberries, raspberries, blueberries)

Combine all ingredients in blender. Blend on high speed until smooth and creamy. Pour into glasses and serve immediately. Serves 2.

One serving = 8 ounces or 1 cup
 Calories per serving = 85
 14 grams carbohydrate



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Jell-O® Jigglers®

2 ½ cups boiling water

2 packages sugar-free Jell-O® (8-serving size each)

Stir boiling water into dry gelatin mix in a large bowl for at least 3 minutes until completely dissolved. Pour into 9x13-inch pan. Refrigerate at least 3 hours or until firm. Dip bottom of pan in warm water for 15 seconds. Cut into 24 decorative shapes using 2-inch cookie cutters, being careful to cut all the way through gelatin to bottom of pan. Lift Jigglers® from pan. Reserve scraps for snacking. Store in tightly covered container in refrigerator. Serves 16.

One serving = approximately ½ cup

Calories per serving = 4

4 grams carbohydrate

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Lemonade

1 packet of Equal®

2 tablespoons of lemon juice

1 cup cold water

Combine one packet of Equal® sweetener with 2 tablespoons of lemon juice. Add 1 cup cold water and ice as desired. Serves 1.

One serving = 1 cup

Calories per serving = 4

1 gram carbohydrate

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Peanut Butter – Maple Syrup

½ cup creamy peanut butter

1 cup low-calorie/sugar-free maple syrup

Heat peanut butter for 30 seconds in the microwave and whisk with maple syrup until combined. Heat mixture for an additional 30 seconds in the microwave. Whisk before serving on top of pancakes or waffles.

One serving = ¼ cup Calories per serving = 129

5 grams carbohydrate

One serving = ¼ cup

Calories per serving = 129

4 grams carbohydrate

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Melon Cooler

2 cups of chopped cantaloupe (or any other fresh fruit)

¼ cup orange juice

1 cup plain nonfat yogurt

2 teaspoon sugar

2 teaspoon minced mint

In a blender, combine 2 cup of cantaloupe without the remaining ingredients and blend until smooth, about 1 minute. Serves 4

One Serving = 1 cup

Calories per Serving = 73

15 grams of carbohydrate



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Orange Whiz

½ cup 2% milk

1 cup orange sherbet

1 cup orange juice

Pour milk, orange juice and orange sherbet into blender and blend at high speed for 10 seconds. Serves 6.

One serving = approximately ¾ cup

Calories per serving = 75

15 grams carbohydrate



Soups



Beef Stew

6 ounces lean beef cubes
 2 tablespoons flour
 1 cup water
 1 medium tomato, chopped
 1 stalk celery, chopped
 1 small onion
 1 small potato
 ½ cup green beans
 ½ cup carrots
 Salt and pepper to taste

Roll beef cubes in flour. Brown beef cubes lightly on all sides in a greased frying pan. Add water, chopped tomato, celery and onion. Cover pan and simmer for 45 minutes. Add diced potato, green beans and carrots. Continue simmering until meat is tender (15–30 minutes). Salt and pepper to taste. Serves 3.

One serving = approximately 1 cup
 Calories per serving = 215
 16 grams carbohydrate

Chicken Noodle Soup

2 teaspoons chicken soup base
 3 cups chicken soup stock
 2 cups chopped carrots
 2 cups chopped celery
 ¾ cup chopped onion
 2 cans condensed cream of chicken soup
 ½ cup 2% milk
 1 cup butter
 2 cups flour
 2 cups diced chicken
 4 cups cooked noodles
 Salt and pepper to taste

Heat chicken soup base and stock together. Add carrots, celery and onions. Simmer until vegetables are tender. Add cream of chicken soup and milk. Thicken with butter and flour as desired, then add cooked chicken and noodles. Add salt and pepper to taste. Serves 15.

One serving = approximately 1 cup
 Calories per serving = 285
 27 grams carbohydrate

Clam Chowder

3 cups diced potatoes
 1 cup diced celery
 1 cup finely chopped onions
 2 small cans of clams (6½ oz.)
 1 teaspoon sugar
 ½ cup butter
 ¾ cup flour
 1½ teaspoon salt
 1 quart half and half

Boil the potatoes, celery, and onions in ½ cup of water mixed with the drained clam juice and sugar. While the vegetables are cooking, melt the butter in another saucepan. When the butter is melted, stir in the flour and salt to make a roux. Pour half and half into the roux mixture stirring constantly until the mixture is thickened. Add the cooked vegetables and clams into the half and half mixture. Simmer and serve. Serves 16.

* For less calories, use 2% or skim milk in place of half and half.

One serving = approximately ¾ cup

Calories per serving = 200

14 grams carbohydrate

Vegetable Soup

1 cup diced tomatoes
 1½ cups diced carrots
 1 cup diced celery
 1½ quarts water
 ¼ cup diced onion
 1 tablespoon beef soup base
 ½ cup green beans
 1 cup diced potatoes
 ½ pound cooked beef pieces
 1 cup water
 1 cup peas



Cook together tomatoes, carrots, celery, water, onion, and beef soup base until carrots and celery are tender. Add beans, potatoes, beef, and an additional cup of water. Simmer until vegetables are tender. Add peas about 5 minutes before serving. Taste to correct seasonings. Serves 12.

One serving = approximately 1 cup

Calories per serving = 92

11 grams carbohydrate

Breads



Applesauce Bread

- ½ cup butter, softened
- 2 eggs
- 1 teaspoon vanilla
- 2 cups flour
- 1 teaspoon baking powder
- 1 teaspoon baking soda
- 1 teaspoon salt
- 2 teaspoons cinnamon
- ½ teaspoon nutmeg
- ½ cup raisins
- 1 cup unsweetened applesauce
- ½ cup finely chopped walnuts

Preheat oven to 350 degrees.

Cream butter, add eggs and vanilla and beat well. In a separate bowl, combine flour, baking powder, baking soda, salt, cinnamon, and nutmeg. Add flour and applesauce alternately to creamed mixture and blend well. Soak raisins in hot water for 5 minutes and then drain well. Add raisins and nuts. Bake in a greased loaf pan for about 1 hour at 350 degrees. Serve warm. This recipe is a good source of dietary fiber. Serves 16.

One serving = approximately 1/16 of the loaf

Calories per serving = 137

15 grams carbohydrate

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Banana Nut Bread

2 cups white sugar
½ cup butter
2 eggs
2 medium ripe bananas, mashed
1 teaspoon salt
1 teaspoon baking soda
2 teaspoons baking powder
2 cups flour
½ cup chopped walnuts

Preheat oven to 375 degrees.

Cream together sugar, shortening, eggs and mashed bananas. Sift together dry ingredients and add to the other mixture. Mix well and fold in nuts. Pour mixture into 9" x 5" greased and floured loaf pan. Bake at 375 degrees for 1 hour. Good source of dietary fiber. Yields 18 slices.

One serving = approximately 1/18 of a loaf

Calories per serving = 143

36 grams carbohydrate



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Banana Nut Muffins

1½ cup currants
1 egg
1 small banana
1 teaspoon vanilla
2 teaspoons water
1 cup cake flour
½ teaspoon salt
3 teaspoons baking powder
1 teaspoon cinnamon
2/3 cup 2% milk
2 tablespoons melted shortening
½ cup finely walnuts

Preheat oven to 400 degrees.

Soak currants in hot water and drain well. Beat egg and then add banana, vanilla and water. In a separate bowl, mix flour, salt, baking powder and cinnamon. Add flour mixture alternately with milk to banana mixture. Add currants, shortening and nuts and mix well. Fill small, greased muffin pans ¾ full and bake at 400 degrees for about 20 minutes. Makes 12.

One serving = 1 muffin

Calories per serving = 111

15 grams carbohydrate

Rolls

½ cup sugar
 2 teaspoons salt
 ½ cup butter
 2 cups scalded 2% milk
 2 tablespoons yeast (2 packages)
 ½ cup luke warm water
 6¾ cups flour
 3 slightly beaten eggs

Measure sugar, salt and butter into a large mixing bowl. Pour scalded milk over mixture, stirring until butter is melted. Dissolve yeast in water. Add yeast mixture to milk mixture when milk mixture has cooled to luke warm. Add 1 cup sifted flour. Beat well. Gradually add one half of the remaining flour, beating well after each addition. Add beaten eggs and beat well. Gradually add remaining flour, beating well after each addition to make a soft but easily workable dough. Let rest for 10 minutes, then knead until dough is satiny and leaves the board without sticking.

Put in large greased bowl. Brush lightly with shortening and cover with a towel. Let rise until double in size (about 2 hours). Punch down and let rise again until almost double (about 1½ hours).

Preheat oven to 400 degrees.

Punch down and divide dough into four equal parts. Let rest 10 minutes. Roll dough and brush with butter. Cut each piece of dough into eight triangles. Roll up fat end first, pinch edge to seal and set on cookie sheet. Let rise for 20 to 25 minutes. Bake at 400 degrees for 15 to 20 minutes. Makes 32 rolls. This recipe can also be used to make cinnamon rolls (see next page).

One serving = 1 roll
 Calories per serving = 131
 20 grams carbohydrate



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Cinnamon Roll Filling

1 cup butter
1 cup brown sugar
1 cup chopped pecans
1 cup raisins
1 teaspoon ground cinnamon

Follow the roll dough recipe. Divide the roll dough into four equal parts, let rest for 10 minutes. Roll each section of dough into a 12" x 8" rectangle. Spread each section with $\frac{1}{4}$ cup softened butter. Sprinkle with $\frac{1}{4}$ cup brown sugar, $\frac{1}{4}$ cup pecans, $\frac{1}{4}$ cup raisins and $\frac{1}{4}$ teaspoon cinnamon.

Roll up from long side, jelly-roll fashion and pinch edge to seal. Cut crosswise into eight pieces per section and place in pan cut side down. Let rise for 20–25 minutes. Bake at 375 degrees for 25–30 minutes, or until golden brown. Makes 32 rolls.

* To reduce calories and carbohydrate grams, try $\frac{1}{4}$ cup brown sugar and $\frac{1}{2}$ cup artificial brown sugar substitute.

One serving = 1 roll
Calories per serving = 370
42 grams carbohydrate



Salads



Chicken Exotic

- 1 can water chestnuts
- 2 cups cubed, cooked chicken or turkey
- 3 cups seedless green grapes
- ½ cup diced celery
- ¼ cup slivered almonds
- ¾ cup mayonnaise
- ½ teaspoon curry powder
- 2 teaspoons soy sauce
- 2 teaspoons lemon juice
- 1½ cups unsweetened pineapple chunks

Combine sliced water chestnuts with meat and mix. Add the washed grapes, celery and almonds. Mix mayonnaise, curry powder, soy sauce and lemon juice together. Combine with meat and chill for several hours. Sprinkle with more almonds and garnish with pineapple chunks. Can be served on a slice of fresh cantaloupe. Serves 8.

* To reduce calories from fat, try low-fat or fat-free mayonnaise.

One serving = approximately ½ cup

Calories per serving = 243

17 grams carbohydrate

Summer Tuna Salad

- 1 large can water-packed tuna fish
- 1 chopped fresh tomato
- ¼ cup chopped green pepper
- ½ peeled and chopped cucumber
- 4 green onions, chopped (including green part)
- ¾ cup chopped celery
- 3 to 5 tablespoons vinegar, depending on your taste
- Clove of garlic, minced
- Freshly ground pepper to taste

Drain and rinse the tuna fish. Combine all ingredients. Toss and serve on a bed of lettuce. Serves 4.

One serving = approximately ½ cup

Calories per serving = 73

0 grams of carbohydrate

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Turkey Pasta Salad

8 ounces elbow macaroni, uncooked
2 cups sliced fresh mushrooms
1 cup sliced green onions
 $\frac{1}{3}$ cup lemon juice
3 cups diced, cooked turkey (white meat)
 $1\frac{1}{2}$ cups (10 oz. package) thawed frozen peas
 $\frac{1}{2}$ cup chopped fresh parsley
 $\frac{1}{4}$ cup olive oil
2 teaspoons garlic powder
 $\frac{1}{2}$ teaspoon pepper
1 tablespoon oregano
2 teaspoons salt (optional)

Cook macaroni according to package directions. Combine cooled macaroni with remaining ingredients. Toss lightly and chill.
Serves 7.

One serving = approximately 1 cup

Calories per serving = 325

37 grams carbohydrate



Main Dishes

Beef and Cheese Enchiladas

- 1 pound lean ground beef
- ¼ cup chopped onion
- ¼ cup sliced black olives
- ¼ cup chopped green peppers
- 1 cup grated cheddar cheese
- 9 6-inch flour tortillas
- 1 envelope enchilada sauce mix
- 2 cups canned tomatoes with liquid, chopped until chunky
- Jalapeno pepper rings for garnish (if desired)

Preheat oven to 350 degrees.

Brown ground beef until slightly pink, drain excess fat. Add raw onion, olives and green peppers to meat mixture. Equally divide meat mixture and ½ cup grated cheese among all 9 tortillas. Roll tortillas and place in baking dish with seam down. Mix enchilada sauce mix with canned tomatoes and pour over rolled tortillas. Sprinkle remaining ½ cup of grated cheese over the top and garnish with jalapeno pepper rings if desired. Cover baking dish with foil and bake in a 350 degrees oven for 45 minutes. Serves 9.

One serving = one tortilla with sauce

Calories per serving = 325

21 grams carbohydrate



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Pulled Pork

2 large sweet onions, cut into 1/2 – inch slices
1 (4 ½ – 5 lb.) boneless pork shoulder roast (Boston butt)
2 tablespoons garlic-oregano-red pepper seasoning blend
1 teaspoon kosher salt
1 (10 ½ – oz.) can condensed chicken broth
Buns/Rolls for Sandwiches
Optional: BBQ sauce

Preparation Time: 10 minutes hands-on; 8 hours total

Preheat oven to 350 degrees or use stove-top method.

Place onions in a lightly greased 6–qt. slow cooker. Rub roast with seasoning blend and salt; place roast on onions. Pour broth over roast. Cover and cook on LOW 8 to 10 hours or 6 to 8 hours on high until meat shreds easily with a fork.

Transfer roast to a cutting board or serving platter; shred with 2 forks, removing any large pieces of fat. Remove onions with a slotted spoon, and serve with pork. Can mix pork with BBQ sauce if desired. Place on buns for sandwich.

Nutrition Tip: Use a whole wheat bun instead of a white bun to add more fiber.

Side idea: Make a side of light coleslaw to eat with or on top of pulled pork sandwiches.

One serving = 3 oz. (without bun or BBQ sauce)
Calories per serving = 3 oz. (without bun or BBQ sauce)
2 grams carbohydrate without bun or BBQ sauce.



Beef Stroganoff

2 pounds round steak, cut ½ inch thick

1 tablespoon + 1 teaspoon flour

1 teaspoon salt

¼ teaspoon pepper

2½ tablespoons butter

Water, enough to cover

¾ cup mushrooms

¼ teaspoon flour

½ teaspoon paprika

2½ tablespoons butter

½ cup sour cream*

½ cup unflavored nonfat yogurt

4 cups medium cooked noodles

Cut round steak into strips about 1¼ inches thick and 3 inches long. Mix flour, salt and pepper and dredge meat in seasoned flour. Brown meat with shortening in a frying pan. Pour off drippings. Be careful not to over cook. Add water, cover pan tightly and simmer for 1½ hours. Remove meat from frying pan. Add mushrooms, ¼ teaspoon flour, paprika and butter. Cover and simmer for 2–3 minutes. Add meat and fold the sour cream and plain yogurt. Heat thoroughly but do not boil. Serve over warm noodles. Serves 8.

*To reduce calories and fat, use plain unflavored nonfat yogurt or substitute fat free sour cream.

One serving = approximately one cup

Calories per serving = 366

21 grams carbohydrate



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Chicken Cashew Casserole

¼ cup chopped onion
1 cup chopped celery
1 teaspoon butter
¼ pound cashew nuts
2 cups cooked chicken, cut into small pieces
1 13-ounce can chow mein vegetables
¼ cup chicken broth
1 can condensed cream of mushroom soup
1 5-ounce can fried chow mein noodles

Preheat oven to 350 degrees.

Saute onions and celery in shortening. Mix with other ingredients (except chow mein noodles) and bake in a 1½ quart casserole dish for 35–40 minutes at 350 degrees. Serve over chow mein noodles. This recipe is a good source of fiber. Serves 8.

Side idea: Serve with sliced fruit or a small orange.

One serving = approximately one cup

Calories per serving = 410

30 grams carbohydrate



Chicken Cordon Bleu

2 Deboned and halved whole chicken breasts

4 1-ounce slices of ham

4 1-ounce slices of Swiss cheese

Thyme or rosemary as desired

Salt and pepper

½ cup melted butter

½ cup bread crumbs

Sauce

½ can condensed cream of mushroom soup

¼ cup unflavored nonfat yogurt

Dash of lemon juice

Preheat oven to 400 degrees.

Skin and bone chicken breast halves. Place each half between sheets of plastic wrap, skinned side down and pound with meat mallet to about ⅛ inch thickness. On each ham slice, place a slice of cheese. Sprinkle lightly with seasonings. Roll ham and cheese jelly-roll style, then roll each chicken breast with ham and cheese inside. Tuck in ends and seal well (tie rolls if necessary or fasten edges with toothpicks). Dip each roll into melted butter, then roll in bread crumbs thoroughly. Place rolls in 9" x 13" x 2" baking dish. Bake uncovered in a 400 degree oven for about 40 minutes.

While chicken is baking, mix the ingredients together for the sauce. Heat sauce on low heat or in a double broiler until hot (be careful not to overcook). Spoon sauce over chicken when ready to eat. Serves 8.

Side idea: Serve with a side of steamed broccoli or brown rice.

One serving = 1 chicken breast half with sauce

Calories per serving = 332

14 grams carbohydrate



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Easy Mexicali Dinner

1 pound lean ground beef
½ cup chopped onion
4 cups cooked elbow macaroni
½ cup corn
1 large can of canned tomatoes
1 6-ounce can tomato paste
1½ cups shredded cheese
½ cup ripe olives
1 teaspoon salt
¼ teaspoon basil

Preheat oven to 350 degrees.

Cook meat and onion in large skillet until onion is tender. Stir in noodles, corn, tomatoes, tomato paste, 1 cup cheese, olives and seasoning. Turn into a 2 quart casserole dish. Top with remaining cheese. Bake at 350 degrees for 45 minutes or until hot. Serves 12.

Nutrition tip: use whole grain pasta for added fiber content.

Side idea: Serve with a side of black or pinto beans.

One serving = approximately ¾ cup
Calories per serving = 295
16 gram carbohydrate



Fried Rice

3 tablespoons oil
 2 slightly beaten eggs
 1 cup bean sprouts
 ½ cup diced mushrooms
 3 cups cooked rice
 2 tablespoons soy sauce
 2 finely chopped green onions
 1 cup diced chicken, shrimp or any other meat

Prepare vegetables. Set wok or frying pan on high heat. Add 1 tablespoon oil, heat until hot. Add eggs and stir until soft scrambled. Remove cooked eggs from pan. Add 2 tablespoons oil, bean sprouts and mushrooms. Stir fry for one minute. Add rice and stir fry until heated thoroughly. Add soy sauce, green onions and meat. Return remaining ingredients to pan and serve. Serves 8.

Nutrition tip: Use brown rice for added fiber. Fiber is important because it can help to increase the bulk and soften stool and can lower cholesterol.

Side idea: Serve with a side of mandarin oranges or throw some peanuts into the fried rice for a bit of crunch.

One serving = ½ cup
 Calories per serving = 172
 19 grams carbohydrate



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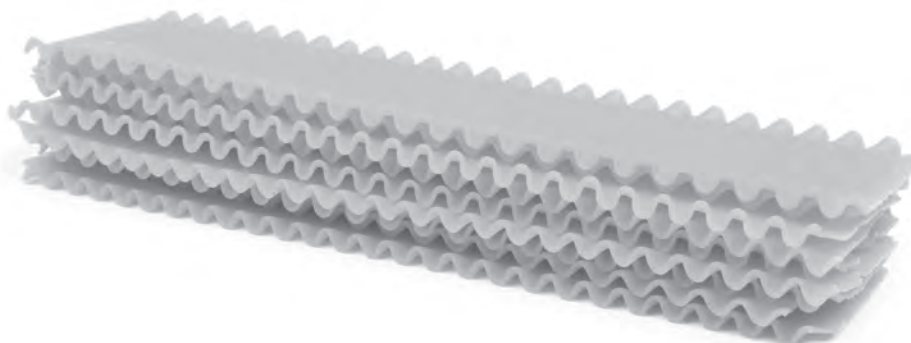
Vegetable Lasagna

14 lasagna noodles
2 tablespoons extra-virgin olive oil
1 cup chopped onion (½ a large onion)
3 garlic cloves, minced
⅛ to ¼ teaspoon crushed red pepper flakes
2 medium zucchinis cut into ½-inch pieces (about 4 cups)
2 medium yellow squash cut into ½-inch pieces (about 4 cups)
12 ounce jar roasted red peppers, drained and cut into ½-inch pieces
(1 heaping cup)
1 (28 oz.) can crushed tomatoes
Generous handful fresh basil leaves, chopped
One 15-oz. container whole-milk ricotta cheese or cottage cheese
2 large eggs
2 ounces parmesan cheese, grated (1 cup)
8 ounces low-moisture whole-milk mozzarella cheese, shredded
Salt and black pepper to taste

Heat oven to 350 degrees F. Lightly oil or spray 13 x 9 inch baking dish with non-stick cooking spray.

Cook noodles according to package instructions in a large pot of boiling salted water. Add a few teaspoons of olive oil to prevent the noodles sticking together. Drain the noodles and lay on a sheet of aluminum foil.

While noodles are cooking and cooling, heat olive oil in a large frying pan over medium heat. Add onion and cook, stirring occasionally until translucent (3-5 minutes). Add garlic, red pepper flakes, zucchini, squash and a pinch of salt then cook, stirring occasionally until softened but still crunchy (5-8 minutes). Add roasted red peppers and crushed tomatoes. Stir and bring to a low simmer. Simmer until liquid has thickened and reduced by half (5-8 minutes). Add basil then season to taste with additional salt and pepper. (continued on next page)



Add ricotta cheese (or cottage cheese), eggs, and a ½ teaspoon of salt to a medium bowl and stir until well combined.

Assemble lasagna by spooning the vegetable mixture into the baking dish to lightly cover the bottom (about 1 cup). Arrange four noodles lengthwise and side-by-side to cover the baking dish. Spread about half of the ricotta cheese (or cottage cheese) mixture over the noodles. Sprinkle with a third of the parmesan cheese and a third of the mozzarella cheese. Top with about a third of the vegetable mixture. Add another layer of four noodles then repeat with remaining cheese and vegetables. Finish with a final layer of noodles, vegetables, parmesan, and mozzarella cheese.

Cover lasagna loosely with aluminum foil and bake 20 minutes, uncover then bake 15 minutes until cheese is crusty around the edges. Let rest at least 15 minutes before serving. Serves 12.

Side idea: Green salad with Italian dressing.

One serving = one 3"x 3" square

Calories per serving = 278

29 grams carbohydrate



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Pop Over Pizza

1 pound lean ground beef
1 envelope spaghetti sauce mix
½ cup water
2 eggs
1 tablespoon vegetable oil
½ teaspoon salt
½ cup chopped onions
1 15-ounce can tomato sauce (small can)
8 ounces sliced mozzarella cheese
1 cup 2% milk
1 cup sifted all-purpose flour
½ cup grated Parmesan cheese

Preheat oven to 400 degrees.

Grease a 13" x 9" x 2" baking pan. Brown beef with onion in a large skillet, breaking it up with a spoon as it cooks. Spoon off excess fat from skillet. Stir in sauce mix, tomato sauce and water and simmer for ten minutes. Spoon into prepared pan, top with slices of cheese. Place in oven to keep hot. Beat eggs, milk and oil in a small bowl with electric mixer until foamy.

Beat in flour and salt until batter is smooth. Pour batter over hot meat filling, spreading to cover completely. Sprinkle with cheese and bake for 30 minutes. Cut into squares and serve while hot and puffy. Serves 12.

Nutrition tip: Use whole wheat flour instead of white flour for added fiber.

Side idea: Spinach salad with balsamic vinaigrette.

One serving = 1/12 of a pizza
Calories per serving = 183
7 grams carbohydrate



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Fish Tacos

1 pound white flaky fish, such as mahi mahi or tilapia
¼ cup canola oil
1 lime, juiced
1 tablespoon ancho chili powder
1 jalapeno, coarsely chopped
8 small flour tortillas

Possible garnishes: shredded white cabbage, hot sauce, sour cream, shredded cheese, thinly sliced red onion, green onion, chopped cilantro leaves, salsa

Preheat grill to medium-high heat. Place fish in a medium size dish. Whisk together the oil, lime juice, ancho, jalapeno, and cilantro and pour over the fish. Let marinate for 15 to 20 minutes.

Remove the fish from the marinade and place onto a hot grill, flesh side down. Grill the fish for 4 minutes on the first side and then flip for 30 seconds and remove. Let rest for 5 minutes then flake the fish with a fork.

Place the tortillas on the grill and grill for 20 seconds. Divide the fish among the tortillas and garnish with any or all of the garnishes. Serves 6-8.

Nutrition Tip: Use whole-wheat tortillas instead of white tortillas for added fiber content.

One serving = 1 taco shell, ¼ cup fish mixture
Calories per serving = 119
12 grams carbohydrate



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Teriyaki Steak or Chicken

½ cup soy sauce
½ teaspoon ginger
½ cup brown sugar
½ cup water
½ teaspoon ajinomoto (MSG)*
3 pounds lean sirloin tip or chicken

Cut meat into strips and marinate in the above ingredients for one hour. Put on skewers and cook over a barbecue about one minute on each side. Serves 12.

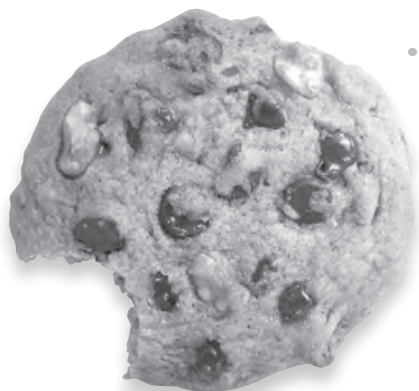
Side idea: serve with grilled pineapple, watermelon, peaches, or nectarines.

* Ajinomoto or MSG is used as a flavor enhancer. This is an optional ingredient.

One serving = 2 ounces
Calories per serving = 269
12 grams carbohydrate



Cakes and Cookies



Applesauce Cookies

- 1¾ cups flour
- ½ teaspoon salt
- 1 teaspoon cinnamon
- ½ teaspoon nutmeg
- ½ teaspoon cloves
- 1 teaspoon baking soda
- ½ cup butter
- 1 teaspoon vanilla
- 1 cup white sugar
- 1 egg
- 1 cup unsweetened applesauce
- ½ cup raisins
- 1 cup All-Bran® cereal

Preheat oven to 375 degrees.

Sift together the flour, salt, cinnamon, nutmeg, cloves and baking soda. In a separate bowl, cream together butter, vanilla, sugar and egg until light and fluffy. Add flour mixture and applesauce alternately to creamed mixture, mixing well after each addition. Fold in raisins and All-Bran®. Drop by level teaspoonfuls onto greased cookie sheet. Bake at 375 degrees for 10 minutes or until golden brown. Makes 36 cookies. This recipe is a good source of fiber.

One serving = 2 cookies
 Calories per serving = 116
 26 grams carbohydrate

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Chocolate Chip Cookies

2½ cups sifted flour
1 teaspoon baking soda
1 teaspoon salt
½ cup softened butter or butter
¾ cup brown sugar
2 eggs
1½ cups white sugar
½ teaspoon water
1 teaspoon vanilla
6 ounce package semi-sweet chocolate chips
1 cup finely chopped walnuts

Preheat oven to 375 degrees.

Sift together flour, salt and baking soda. Set aside. Heat butter and brown sugar until melted. Cool slightly. Add sugar, water, eggs and vanilla to the butter mixture. Blend until creamy. Add flour mixture and mix well. Fold in chocolate chips and nuts. Drop by spoonfuls onto greased cookie sheet. Bake at 375 degrees for 10–12 minutes. Makes 36–2" cookies.

One serving = 1 cookie
Calories per serving = 110
26 grams carbohydrate



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Oatmeal and Applesauce Cookies

½ cup flour
½ teaspoon cinnamon
½ teaspoon baking soda
¼ teaspoon salt
¼ teaspoon nutmeg
¼ teaspoon cloves
¼ teaspoon allspice
½ cup quick cooking oatmeal
½ cup raisins
½ cup unsweetened applesauce
¼ cup cooking oil
½ cup white sugar
1 medium egg
1 teaspoon vanilla

Preheat oven to 375 degrees.

Mix flour, cinnamon, baking soda, salt, nutmeg, cloves, allspice, oatmeal and raisins. Add applesauce, oil, sugar, egg and vanilla. Mix just to moisten. Drop by spoonfuls onto greased sheets. Bake at 375 degrees for about 12 minutes. Serve warm. Makes 24 cookies. This recipe is a good source of dietary fiber.

One serving = 2 cookies
Calories per serving = 100
16 grams carbohydrate



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Oatmeal Cookies

1½ cups quick cooking oatmeal

$\frac{2}{3}$ cup melted butter

2 beaten eggs

1 cup white sugar

1½ cups sifted flour

$\frac{1}{2}$ teaspoon salt

2 teaspoon baking powder

$\frac{1}{2}$ cup 2% milk

1 tablespoon vanilla

$\frac{1}{4}$ cup currants or raisins

Preheat oven to 400 degrees.

Measure oatmeal into a 1 quart mixing bowl. Stir in melted butter. Blend in combined eggs and sugar. Sift remaining dry ingredients together with combined milk and vanilla mixture. Mix in currants and raisins. Drop by spoonfuls on a baking sheet. Bake at 400 degrees for 10–15 minutes or until golden brown. Makes 6 dozen cookies.

One serving = 3 cookies

Calories per serving = 110

19 grams carbohydrate



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Peach Crunch

4 cups canned, sliced, unsweetened peaches

1 cup corn flakes

$\frac{3}{4}$ cup unsweetened coconut

$\frac{3}{4}$ teaspoon cinnamon

2 tablespoons butter

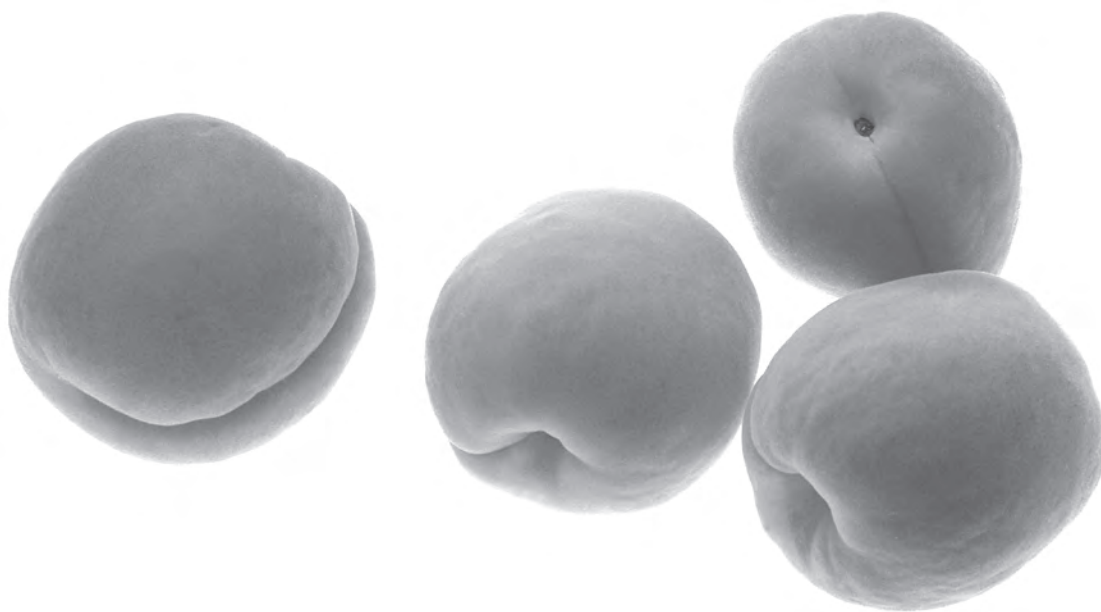
Preheat oven to 350 degrees.

Drain peaches and place in a shallow, six cup baking dish. Crush corn flakes and mix with coconut and cinnamon. Sprinkle over peaches. Dot with butter. With fork, work the crumb mixture into the peaches just slightly. Bake at 350 degrees for about 25 minutes or until bubbly hot. Serves 8.

One serving = approximately $\frac{1}{2}$ cup

Calories per serving = 115

12 grams carbohydrate



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Peanut Butter Cookies

$\frac{3}{4}$ cup soft butter
2 cups white sugar
1 cup brown sugar
2 eggs
1 cup peanut butter
1 cup flour
1 teaspoon salt
 $1\frac{1}{2}$ teaspoons baking soda
1 cup oatmeal

Preheat oven to 300 degrees.

Cream butter, sugar and brown sugar together. Beat in eggs and peanut butter. Mix dry ingredients together. Add dry ingredients to the above mixture and blend well. Drop by spoonfuls on to a baking sheet. Bake at 300 degrees for 15 – 17 minutes. Makes 48 cookies.

One serving = 2 cookies
Calories per serving = 162
34 grams carbohydrate





Special Occasions and Holidays

During holidays and on special occasions there is an emphasis on sweets, candy, and desserts. Meal planning and diabetes management can become challenging. This section will give suggestions on how to eat well during these times. It is important to remember that all foods can be worked into your child's meal plan. Keep close track of your child's blood glucose levels during special occasions, and adjust food and insulin as needed.

BIRTHDAYS

Cake is a relatively simple dessert that doesn't have too much added sugar. Most of the sugar is in the icing. Some icings have as much as 15–18 grams of carbohydrate per teaspoon. It is best to remove heavy icing from cake and use light whipped topping, flavored whipped topping, or fruit instead (or use the recipes provided). Using light Cool Whip® with food coloring, sugar-free Jell-O®, or sugar-free hot cocoa is also popular.

- Use plain ice cream or frozen yogurt.
- Use snack or meal time to offer cake and ice cream.
- Use sugar-free beverages for drinks.

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Cream Cheese Frosting

3 8-ounce containers of fat-free cream cheese
1 tablespoon butter flavor extract
8 packets Equal®
2 cups light whipped topping

In deep mixing bowl, combine cream cheese and butter flavor extract. Mix at medium speed with electric mixer.

Add Equal® and beat until smooth. Add light whipped topping and continue beating until all ingredients are thoroughly mixed.

Must be refrigerated.

*To make chocolate cream cheese frosting, add 2 ounces melted unsweetened chocolate or 1/3 cup cocoa to the above recipe and blend thoroughly. Yield = 4 cups

└ Serving size = 2 tablespoons
3.5 grams carbohydrate

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Glaze

1 tablespoon cornstarch
1/3 cup dry milk powder
1 cup water
1 tablespoon butter
1 teaspoon butter flavor extract
8 packets Equal®

In small saucepan, combine cornstarch, and dry milk and mix. Gradually add water, stirring to dissolve dry milk and cornstarch. Add butter. Cook over low heat, stirring constantly, until glaze thickens. Remove from heat and add butter flavor extract and Equal®, stirring to blend. Yield 1 cup.

└ Minimal carbohydrate

CHRISTMAS

Christmas holidays can be a hard time to manage diabetes because of the length of time we celebrate. It's best to keep less sweets around during this time.

Plan dinner items that easily fit into your meal plan.

Keep high-calorie, sugary snacks out of sight and keep free foods handy to help curb those holiday munchies.

No Egg Nog

1 package (4 serving size) sugar-free instant vanilla pudding mix

4 packets Equal®

7 cups skim milk

½ teaspoon nutmeg

1 12-ounce can evaporated skim milk

2 teaspoons imitation rum flavor extract

In half-gallon pitcher or large deep bowl, combine pudding mix, Equal® and 2 cups of milk. With wire whisk or electric mixer, mix completely for approximately one minute. Add 3 more cups of milk and continue to mix. Add nutmeg, evaporated milk, rum flavor extract, and remaining milk. Mix again and chill for several hours. Serves 8 to 10.

Serving size = 8 ounces

9 grams carbohydrate



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Christmas Morning Pancakes with Berries

1 cup all-purpose flour
2 tablespoons sugar substitute, divided
1 tablespoon baking powder
 $\frac{3}{4}$ tablespoon ground nutmeg
 $\frac{1}{2}$ tablespoon baking soda
 $\frac{1}{4}$ tablespoon salt
 $1\frac{1}{3}$ cups buttermilk
1 egg — slightly beaten
2 tablespoons canola oil
2 cups sliced strawberries
2 tablespoons finely grated lemon peel

Combine flour, 1 tablespoon sugar substitute, baking powder, nutmeg, baking soda and salt in a small bowl. Combine buttermilk, egg and oil in another small bowl. Add to flour mixture; stir just until moistened.

Lightly coat nonstick cooking spray. Heat over medium-high heat. For each pancake, pour about $\frac{1}{4}$ cup batter onto hot griddle. Cook until top is covered with bubbles and edge is slightly dry. Turn pancake over, continue cooking until done.

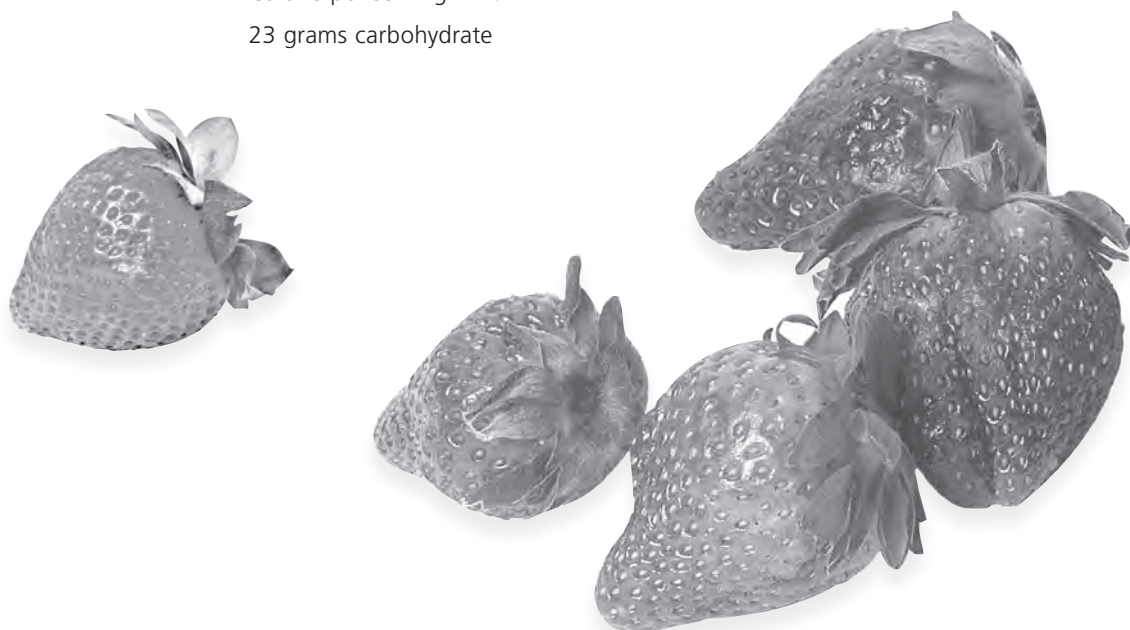
Meanwhile, combine strawberries, 1 tablespoon sugar substitute and lemon peel in medium bowl. Serve strawberry mixture over warm pancakes.

Serves 6

One serving = 1 pancake with $\frac{1}{3}$ cup strawberry mixture

Calorie per serving = 162

23 grams carbohydrate



EASTER

For Easter dinner dessert, you can make a bunny cake. Bake two round cakes, cut one cake in half and use it for the ears. The other cake is the face. Frost with glaze and sprinkle coconut on top for the “fuzzy” bunny effect.

Easter baskets can be filled with:

- Stuffed animals
- Easter-or bunny- type books
- Small toys
- Plants or flowers
- Videos
- Movie tickets
- Sports equipment
- Special field trips such as museum, planetarium
- Tickets to athletic events
- Bird house with seed
- Sugar-free gum or candy



HALLOWEEN

Halloween is one holiday that, no matter how you look at it, seems to always come back to candy. Here are some ideas to help you have a healthy Halloween.

- Buy back your child's candy at a price you discuss beforehand or trade the candy for a special gift.
- Work Halloween candy into your meal plan during meals.
- Donate the candy to a non-profit organization or children's home.
- Use nutritious, non-sugared treats like sugar-free gum or sunflower seeds, or items like pencils, pennies, balloons, erasers, etc.
- Have a Halloween party at home.
- Go to a haunted house rather than trick-or-treating.

Make a ghost cake. Bake a 10 x 15 inch sheet cake. Frost with chocolate cream-cheese frosting or chocolate-flavored cool whip. In the center of the cake, using "lite" whipped topping, make a ghost shape. Place two empty egg shells (be sure to wash with soap and dry) for ghost eyes. Place a sugar cube soaked in lemon extract in each shell. When time to serve, light sugar cubes with a lighter or match and watch the ghost eyes light up! Keep refrigerated.

When eating Halloween candy outside of a meal: 1) decide on how many grams of carbohydrate your child is going to eat. 2) figure out how much extra insulin your child needs to balance the grams of carbohydrate.



FUN SIZE CANDY

Candies	Serving Size	Carbohydrate Grams
Airhead®, mini size	13 pieces	10
Almond Joy®, snack size	1	10
Almond Joy®, miniatures	1	8
Baby Ruth®, fun size	1	14
Baby Ruth®, miniatures	2 bars	15
Butterfinger®, fun size	1	15
Butterfinger®, miniatures	2 bars	15
Candy corn	9 pieces	15
Caramels	3	17
Charm Blow Pops®	1	14
Cinnamon Bears	2	17
Cream Savers®	3 pieces	13
Crunch Bar®, Nestles miniatures	2 bars	14
Dove Bar®, mini pieces	3	15
Dum Dums® (0.6 oz.)	2	15
Fruit Gummy, fun size	1	15
Hershey's®, snack size	1	10
Hershey's,® minis	3	10
Hugs® – Chocolate	6	15
100 Grand®, fun size	1	15
Kisses – Chocolate	6	16
Kit Kat®, fun size	1	12
Lifesaver Gummies®, snack size	1 roll	14
M&M's peanut®, fun size	1 pack.	12
M&M's plain®, fun size	1 pack.	13
Milky Way®, fun size	1	12
Milky Way®, mini size	5 pieces	30
Nips®, all flavors	2 each.	11
Nuggets®, chocolate	3	16
Pixy Stix®	7	15
Red Vines®, licorice, reg. size	2 piece	17
Reeses®, fun size cup	1	12
Reeses®, miniatures	7	30
Reeses® Pieces	1 package (1.6 oz., 50 pieces)	25

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Candies	Serving Size	Carbohydrate Grams
Rolos®	5 pieces	16
Skittles®, fun size	1	15
Smarties®	3 rolls	15
Snickers®, fun size	1	11
Snickers®, bite size	3	17
Spree®	8 pieces	14
Starburst Fruit Chews®	4	16
Sweetarts®	8 pieces	14
Take 5®, snack size	1 piece	13
Three Musketeers®, fun size	3 bars	34
Three Musketeers®, bite size	3 pieces	14
Tootsie Roll Midgee®	3	16
Tootsie Pops®	1	15
Twix®, fun size.	1 cookie.	10
Twix®, miniatures	3 cookie.	20
Twizzlers® - Strawberry	3	27
York Peppermint Patties®.	1	10
MISCELLANEOUS		
Gumball	1	5
Slurpee®	8 oz.	18
Slurpee®, lite, sugar-free	8 oz.. . . .	8

HANUKKAH

- Place emphasis on small, non-food gifts.
- Learn the approximate amount of carbohydrates in your favorite traditional foods. For example, one medium potato latke has about 11 grams of carbohydrate.
- Plan to include traditional sweets at meal time, rather than as snacks.
- Measure or “eyeball” portions of carbohydrate-containing foods at large holiday meals so you can match the carbohydrate with insulin.

Chanukah Latkes

5 large potatoes, peeled
 1 large onion
 3 eggs
 1/3 cup flour
 1 teaspoon salt
 1/4 teaspoon pepper
 3/4 cup oil for frying

Grate potatoes and onion on the fine side of a grater, or in a food processor; or put in a blender with a little water. Strain grated potatoes and onion through a colander, pressing out excess water. Add eggs, flour, and seasoning. Mix well.

Heat 1/2 cup oil in 10-inch skillet. Lower flame and place 1 large spoonful of batter at a time into hot sizzling oil and fry on one side for approximately 5 minutes until golden brown. Turn over and fry on other side 2 to 3 minutes.

Remove from pan and place on paper towels to drain excess oil. Continue with remaining batter until used up, adding more oil when necessary.

Serve with applesauce on the side (remember that 1/2 cup of applesauce equals 15 grams carbohydrate in addition to the carbohydrates in the latkes).

Variation: Sweet potato or carrot latkes: substitute 5 medium sweet potatoes or 5 medium carrots for the potatoes. Yields: 8 servings

Serving size = 3 latkes

Calories per serving = 322

26 grams carbohydrate



KWANZAA

- Plan your Kwanzaa celebration to include traditional African foods that are low in carbohydrates such as greens and meats.
- As with most special occasions, helping your child choose the right portion size of carbohydrate foods is the most important.
- Emphasize small educational gifts, rather than food gifts.
- Learn the carbohydrate content of the carbohydrate foods you enjoy during Kwanzaa. For example, a ½ cup of yams equals 19 grams of carbohydrate.
- Enjoy the meaning of the holiday as much as the food.

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New Style Collard Greens

This recipe greatly reduces the fat normally added to collard greens, but it keeps the flavor.

2 bunches (about 4 pounds) collard greens

6 cups water

2 pounds smoked turkey wings, cut at the joints

2 teaspoons salt

1 or 2 dried red peppers or ½ teaspoon ground red pepper (cayenne)

1 clove garlic, mashed

½ teaspoon sugar

1 tablespoon olive oil

Cut off the stems and yellow leaves from the collard greens and throw them out. Gently rub the leaves with your fingers under running warm water. Cut the greens into large pieces. Let the leaves soak in warm, salted water for 10 minutes. Rinse with cool water and drain in colander.

In a large pot, bring the water to a boil. Add the collard greens, smoked turkey wings, salt, red pepper, garlic, sugar, and olive oil. Reduce heat, cover, and simmer over low heat for 1½ to 2 hours, or until the greens are tender. Stir occasionally and add hot water to cover the greens as needed. Serves 12.

Serving size = about 1 cup

Calories per serving = 130

12 grams carbohydrate

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Southern Plum Cake

2 cups sugar
1 cup oil
3 eggs
1 teaspoon cloves
2 cups self-rising flour
1 tablespoon cinnamon
2 jars plum baby food
1 cup chopped pecans

Put all the ingredients in a mixing bowl and beat well. Pour the batter in a tube pan and bake at 350 degrees for 1 hour and 10 minutes. Let cool and serve. Serves 2.

Serving size = $\frac{1}{2}$ cup or $\frac{1}{20}$ of cake

Calories per serving = 276

33 grams carbohydrate



PASSOVER

- Read the labels of unleavened products you purchase so you will know the carbohydrate content.
- Enjoy matzoh brei (see recipe below) with sugar-free syrup or sugar-free jam.
- Balance the traditionally carbohydrate-heavy Passover foods with more salads and vegetables.
- A piece of matzoh (1 oz.) has about 24 grams of carbohydrate.

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Skillet Matzah Brei

Cooking spray
2 teaspoons oil
4 matzahs
4 egg whites
½ teaspoon onion powder, or to taste
¼ teaspoon salt
⅛ teaspoon black pepper
Sugar-free syrup

Coat a large nonstick skillet or griddle with cooking spray and add ½ teaspoon of the oil. Heat the skillet over medium-high heat until very hot. Meanwhile, moisten the matzah with cold water and crumble into a bowl. Add the egg whites and seasonings.

Spoon half the mixture into the hot skillet or griddle as one large pancake and brown. With a wide spatula, lift the matzah and add another ½ teaspoon of oil. Turn to brown the other side. Repeat with remaining mixture and oil. Add 3 tablespoons sugar-free syrup per serving. Serves 4.

Serving size = ½ large matzah brei

Calories per serving = 38

7 grams carbohydrate

RAMADAN

Ramadan is an Islamic holiday that lasts for a month. During this time, Muslims do not eat or drink from sunrise to sunset. Observance of this holiday should be discussed with your doctor 2-3 months before it occurs. Groups of people are exempted from fasting during Ramadan in the Holy Quran. These people include: children, pregnant or breastfeeding women, the elderly, and anyone who might get ill by fasting. Many people can safely fast with diabetes, but it should be discussed with your doctor so you can be aware how fasting affects your child's diabetes.

If your doctor feels it is safe to try fasting for Ramadan, blood glucose should still be monitored regularly throughout the day and a carbohydrate snack should be carried with you at all times. Avoid overeating during the evening celebratory meal and avoid caffeine drinks, which can be dehydrating. Your dietitian can help determine what portion sizes would be appropriate for your child during this holiday.



THANKSGIVING

The traditional turkey dinner should not be a problem. Just remember to measure foods and fit them into your meal plan.

If you have room for pumpkin pie, include a small piece as part of your meal or snack.

Make a turkey treat with an apple as the body, an olive as the head and raisins on toothpicks for the tail. Secure olive with toothpick, and make a “gobbler” out of raisins.

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Pumpkin Pie

2 eggs
1 16-ounce can pumpkin
 $\frac{3}{4}$ cup white sugar
 $\frac{1}{2}$ teaspoon salt
 $1\frac{1}{4}$ teaspoons cinnamon
 $\frac{3}{4}$ teaspoon ginger
1 13-ounce can evaporated skim milk
1 9-inch deep dish unbaked pie crust

Preheat oven to 425 degrees.

Combine ingredients in order given. Mix thoroughly. Pour into 9-inch deep-dish unbaked pie crust. Bake at 425 degrees for 15 minutes. Reduce heat to 350 degrees and bake an additional 40 to 50 minutes or until a knife inserted in center comes out clean. Serves 8.

Serving size = $\frac{1}{8}$ of a pie

Calories per serving = 171

37 grams carbohydrate



VALENTINE'S DAY

- Place emphasis on the valentines and not the candy that goes with them. Make special valentines with lace doilies, ribbon, felt, foil and paper.
- Make apple valentines by having children decorate apples with raisins, nuts, carrots, etc. Attach arms and legs with toothpicks.
- Serve red foods such as cherry tomatoes, pink applesauce, pink lemonade, sugar-free red Jell-O® and pink grapefruit.
- Give children toys as valentine gifts instead of chocolate and candy.
- Take your children skating or bowling as a way to show your love.



Special Holiday Foods



BAR MITZVAH/BAT MITZAVAH HOLIDAY FOODS

- As with most special occasions, measure or “eyeball” portions of carbohydrate foods so you can meet your usual carbohydrate budget.
- Choose salad, meats, and vegetables to satisfy your hunger after you've eaten your meal and you are still hungry.
- Choose a small dessert or skip dessert so you can have a larger portion of another carbohydrate food.
- Choose a diet drink or sparkling water instead of juice or regular soda pop.

CHINESE AMERICAN HOLIDAY FOODS

- For banquet-style events, be sure to help your child measure or “eyeball” portions of carbohydrate foods.
- For the Lunar New Year, choose a small portion of nin goh (New Year's cake) and choose savory “good luck” dumplings over sweet ones.
- Begin to learn the carbohydrate content of your family's favorite holiday foods. For example, $\frac{1}{4}$ of a moon cake contains 24 grams of carbohydrate.
- Choose larger portions of vegetable dishes containing Chinese spinach, bok choy, Chinese eggplant, Chinese mushrooms, straw mushrooms, and choy sum.

HISPANIC AMERICAN HOLIDAY FOODS

- For holidays, Sundays, or special occasions that are celebrated with food, remember to watch serving sizes so you can help your child match carbohydrates with insulin.
- Learn the carbohydrate content of your favorite traditional foods (see below).
- Choose water or sugar-free drinks instead of sweetened drinks such as agua fresca or agua de limon.
- Use salsa—it's low in carbohydrates (3 grams of carbohydrate in ¼ cup).
- Emphasize the social and meaningful parts of the holiday as much as the food.

Food	Serving Size	Carbohydrate Grams
Bolillos (yeast rolls)	5" long	.15
Pan dulce (no fruit or frosting)	4" across	.59
Chorizo	¼ cup	1
Tamal	2 medium	.20
Pozole	1 cup	.15
Mole	¼ cup	5
Jicama	1 cup raw	.12
Chiles rellenos	1	.25–30
Enchiladas (beef or chicken)	2 medium	.31
Frijoles refritos	½ cup	.21
Menudo	1 cup	.10
Guava	1 cup	.42
Calabacita	1 cup raw	2
Cassava	1 cup	.12
Mango	½ small	.15

NAVAJO TRADITIONAL HOLIDAY FOODS

- For special celebrations or ceremonies, estimate the amount of carbohydrate in traditional foods, using the general guideline that $\frac{1}{2}$ cup of a grain, cereal, starch, or fruit has about 15 grams of carbohydrate.
- Learn the carbohydrate content of some of the traditional foods you may include (see below).
- Add more non-starchy vegetables to mutton stew (carrots, onions) and fewer starchy vegetables, such as potatoes and corn.
- Choose diet soft drinks or water for a beverage.
- Help your child measure and limit sweet desserts.

Food	Serving Size	Carbohydrate Grams
Bolillos (yeast rolls)	5" long	15
Navajo Taco	1	63
$\frac{3}{4}$ cup pinto beans, 1 piece fry bread, cheese, tomatoes, chiles, spices		
Fry bread	5" round	20
Navajo Cake	2½" square	37
blue / yellow cornmeal, raisins, brown sugar		
Flour tortilla	8" round	20
Steamed corn hominy	$\frac{1}{2}$ cup	14
Blue corn mush with ash	$\frac{3}{4}$ cup	21
Sumac berry pudding	$\frac{1}{2}$ cup	22

Mutton = 0 carbohydrate

Piñon nuts = 0 carbohydrate

Chapter 7

Glossary and Index



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Blood Sugar (Blood Glucose)

A measurement of the amount of glucose in the blood. Glucose is the main type of sugar the body uses for energy. A person with diabetes cannot break down glucose, so they have high blood glucose levels. These high blood glucose levels can make a person very sick if they aren't controlled.

Calorie

A measurement of the energy found in foods. Calories come from carbohydrate, protein, fat, and alcohol.

Carbohydrate

One of the three major energy sources in foods. The most common carbohydrates are sugars and starches. Carbohydrates are found in foods from the milk, vegetable, fruit, and starch groups. Carbohydrates have about 4 calories per gram.

Carbohydrate Counting

A way to plan meals and snacks. See Chapter 2 for a full description. Since many foods contain carbohydrates, a person can choose what foods they want to eat based on how many carbohydrates are in those foods (see Chapter 5). The goal of carbohydrate counting is to offer greater flexibility in meal planning by matching carbohydrate intake and insulin.

Certified Diabetes Educators (CDE)

Health professionals who stay up-to-date on diabetes care can help you with your diabetes management. These educators specialize in diabetes and have passed the Certification Examination for Diabetes Educators to become certified by the American Association of Diabetes Educators.

Cholesterol

A fat-like substance normally found in blood. A high level of cholesterol in the blood has been shown to be a major risk factor for heart disease. Eating foods high in saturated fat tends to raise a person's blood cholesterol. Cholesterol is found in foods from the milk, protein, and fat groups and is especially high in egg yolks and organ meats. Foods from plants such as fruits, vegetables, grains, and beans, peas, and lentils contain no cholesterol.

Combination Foods Group

Foods in this group contain foods from more than two food groups. Examples of combination foods are pizza, french toast, casseroles, and sandwiches that contain protein, carbohydrate, and fat.

Diabetes

A disorder that happens when the pancreas stops making insulin or doesn't make enough insulin. Without enough insulin, a person can't break down sugars, and high blood glucose levels make a person with diabetes sick.

Diabetes MyPlate

A guide that groups foods for people with diabetes. This plate separates foods into different categories, including fruits, vegetables, grains/starchy vegetables, protein, and dairy. These groups are based on the carbohydrate and nutrient content of foods. See Chapter 1 for an explanation of the Diabetes MyPlate.



Dietitian

A registered dietitian nutritionist (RDN) is recognized by the medical profession as the primary provider of nutritional care, education, and counseling. The initials “RDN” after a dietitian’s name mean that he or she meets the standards of the Academy of Nutrition and Dietetics. Look for these credentials when you want advice on nutrition.

Fat

One of the three major energy sources in food. Fat is found in foods from the fat and protein groups. Fat is a concentrated source of calories — there are about 9 calories per gram of fat. There are three types of fat:

Saturated fat

This type of fat tends to raise blood cholesterol levels. It comes primarily from animals and is usually solid at room temperature. Examples of saturated fats are butter, lard, meat fat, solid shortening, palm oil, and coconut oil.

Polyunsaturated fat

This type of fat can help lower high blood cholesterol levels when it is part of a healthful diet. It is usually liquid at room temperature and is found in vegetable oils. Safflower, sunflower, corn, and soybean oils also contain the high amounts of polyunsaturated fats.

Monounsaturated fat

This type of fat can also help lower high blood cholesterol levels when part of a healthful diet. It is liquid at room temperature and is found in vegetable oils like canola and olive oil.

Fiber

Fiber is found in foods from the starch, vegetable, and fruit groups. Fiber is important in the diet because it helps us digest food.

Food Scale

Food scales are one of the tools available to help you with your carbohydrate counting. A food scale is particularly useful to help you determine the grams of carbohydrate in foods that are homemade, such as breads or foods without a food label. Remember that one ounce of bread is equal to 15 grams of carbohydrate. When you buy a food scale it is better to buy a scale that will weigh in grams and ounces. You want a scale that is easy to read, such as a digital scale.

Free Foods

Food choices that contain less than 5 grams of carbohydrate per serving. These include most green vegetables, condiments and some sugar-free products or beverages.

Glucose

A type of sugar used by the body for energy.

Gram

A measurement of mass and weight in the metric system. An ounce is about 30 grams.



Hyperglycemia (high blood sugar)

A complication of diabetes that happens when blood sugar levels are too high. This can happen when a person with diabetes is ill, during other times of stress, or simply when he or she has not used enough insulin to balance the amount of carbohydrates eaten.

Hypoglycemia (low blood sugar)

This is the most common symptom of diabetes. This happens when a person with diabetes takes too much insulin, doesn't eat enough food, or has extra activity and stress. Symptoms of hypoglycemia usually happen when the blood sugar levels falls below 70 mg/dl.

Insulin

A hormone made by the body that helps the body use food by breaking down glucose. It is also made in the lab to be used by people who do not make enough of their own insulin.

Medical Nutrition Therapy (MNT)

A program of nutrition management that takes into account medical and behavioral issues. Food selection, preparation, portion sizes, and timing of meals are part of MNT for people with diabetes.

Mineral

Substance needed in small amounts to build and repair body tissue and control functions of the body. Calcium, iron, magnesium, phosphorus, potassium, sodium, and zinc are minerals.

Non-Nutritive Sweeteners

Very low-calorie sweeteners such as aspartame, acesulfame K, and saccharin. The average intake of all non-nutritive sweeteners is much less than the acceptable daily intake (ADI), which is determined by the US Food and Drug Administration (FDA). The ADI is the amount of a

food additive that, even if consumed on a daily basis throughout an individual's lifetime, is still considered safe by a 100-fold safety margin. More information on non-nutritive sweeteners is available in chapter 6.

Nutrient

Substance in food necessary for life. Carbohydrates, proteins, fats, minerals, vitamins, and water are nutrients.

Nutritive Sweeteners

These include fructose, honey, corn syrup, high fructose corn syrup, molasses, fruit juice or concentrates, dextrose, maltose, mannitol, sorbitol, xylitol, and hydrogenated starch hydrolysates, as well as sucrose. Some nutritive sweeteners may cause a smaller rise in blood sugar than table sugar and are often used in commercial products. Most nutritive sweeteners provide 4 calories per gram, as do other carbohydrates.

Protein

One of the three major energy sources in food. Proteins are used by the body for energy, growth, and repair. The most common protein foods are meat, egg, fish, poultry, milk, and beans. Proteins have about 4 calories per gram.

Starch

One of the two major types of carbohydrate. Foods high in starch come from the starch group such as breads, cereals, and pasta. *See Sugars on next page for contrast.*



Sugar Alcohols

These are traditional sweeteners often used instead of sugar. Examples include sorbitol (sore-bit-all), mannitol (man-it-all), and xylitol (zie-lit-all). Many fruits and vegetables contain sugar alcohols naturally. They're also found in some sugarless chewing gum, hard candies, jams, and jellies.

Sugars

One of the two major types of carbohydrate. Foods high in naturally-present sugars are those from the milk, vegetable, and fruit groups. Added sugars include common table sugar and the sugar alcohols (sorbitol, mannitol, etc).

Triglycerides

Fats normally found in the blood that are made from food. If a person gains too much weight or eats too much fat, alcohol, or carbohydrates, he or she may increase blood triglycerides.

Vitamins

Substances found in food needed in small amounts to help the body work properly. These include vitamins A, D, E, the B-complex, C, and K.

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