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## Carbohydrate Guide: Understanding carbohydrates can help YOU prevent risk of diabetes

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CORKTOWN  
—HEALTH CENTER—



WAYNE STATE  
School of Medicine

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# Carbohydrate Guide

Understanding  
carbohydrates can help  
YOU  
prevent risk of diabetes

Alcodray, Y. Alkhalili, O. Clementi, E. Garlapati, J. Lewandowski, E.

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Health Emergency  
Lifeline Programs

# ALL ABOUT CARBS

15 g = 1 carb serving

<p><b>STARCH</b> One Serving = 15gm CHO / 1 CHO choice</p> <p>1 slice (1 oz.) bread 1-6" tortilla 1/2 English muffin 1/2 hot dog or hamburger bun 1/4 bagel (1 oz.) 3/4 c. unsweetened ready-to-eat cereal 1/2 c. cooked cereal 1 c. broth-based soup 1/3 c. pasta 1/2 c. starchy vegetables (potatoes, sweet potatoes, yams, corn, peas, cooked beans) 1/4 large baked potato with skin (3 oz.) 3/4 oz. pretzels or potato chips 3 c. light microwave popcorn</p>	<p><b>FRUIT</b> One Serving = 15gm CHO / 1 CHO choice</p> <p>1 small fresh fruit (4 oz.) 1/2 c. unsweetened canned fruit 1/4 c. dried fruit 17 small grapes (3 oz.) 1/2 c. unsweetened fruit juice 1 c. melon, raspberries 2 Tbsp. raisins</p> <p><b>MILK</b> One Serving = 12-15gm CHO / 1 CHO choice</p> <p>1 c. milk 2/3 c. plain yogurt (6 oz.)</p>	<p><b>NON-STARCHY VEGETABLES</b> One Serving = 5gm CHO / 0 CHO choice</p> <p>1 c. raw vegetables 1/2 c. cooked vegetables 1/2 c. tomato or vegetable juice</p> <p><b>SWEETS AND DESSERTS</b> One Serving = 15gm CHO / 1 CHO choice</p> <p>2" square unfrosted cake or brownie (1 oz.) 2 small cookies (2/3 oz.) 1/2 c. ice cream or frozen yogurt 1/4 c. sherbet or sorbet 1 Tbsp. syrup, jam, jelly, sugar, honey 2 Tbsp. light syrup</p>																								
<p><b>COMBINATION FOODS</b></p> <p>1 c. casserole ..... 2 CHO choices, 2 meat 2 c. chow mein and 1 c. rice ..... 4 CHO choices, 2 meat 1 burrito with beef ..... 3 CHO choices, 1 meat, 1 fat 6 chicken nuggets ..... 1 CHO choice, 2 meat, 1 fat 1 c. cream soup made with water ..... 1 CHO choice, 1 fat 1/4 of 12" thin crust cheese pizza ..... 2 CHO choices, 2 meat 1 small frosted cupcake ..... 2 CHO choices, 1 fat 1/6 of 8" fruit pie with 2 crusts ..... 3 CHO choices, 2 fat 1 medium (5 oz.) fast food french fries ..... 4 CHO choices, 4 fat</p>	<p><b>FREE FOODS</b> One Serving = 5gm CHO, less than 20 calories / 0 CHO choice</p> <p>1 Tbsp. catsup 1 Tbsp. fat-free cream cheese, mayonnaise, salad dressing 1/4 c. salsa diet soft drinks lemon juice sugar-free gelatin spices/herbs</p>	<p><b>SNACK IDEAS 1 CHO choice</b></p> <table border="1"> <tr> <td>1/2 banana</td> <td>4 squares graham crackers</td> <td>6 vanilla wafers</td> <td>45-50 Goldfish crackers</td> </tr> <tr> <td>15 grapes</td> <td>3 cups popcorn (popped)</td> <td>2 Oreo cookies</td> <td>15 Teddy Grahams</td> </tr> <tr> <td>12 animal crackers</td> <td>20 potato chips</td> <td>1 "fun size" candy bar</td> <td>12 mini twist pretzels</td> </tr> <tr> <td>1" slice banana bread</td> <td>1 small apple</td> <td>1/2 cup ice cream</td> <td>1/3 c. low-fat yogurt with fruit</td> </tr> <tr> <td>2" x 2" brownie unfrosted</td> <td>1/2 c. canned fruit</td> <td>2/3 cup Chex Mix</td> <td></td> </tr> <tr> <td>1" x 2" brownie frosted</td> <td>1 unfrosted cupcake</td> <td>10-12 Doritos</td> <td></td> </tr> </table>	1/2 banana	4 squares graham crackers	6 vanilla wafers	45-50 Goldfish crackers	15 grapes	3 cups popcorn (popped)	2 Oreo cookies	15 Teddy Grahams	12 animal crackers	20 potato chips	1 "fun size" candy bar	12 mini twist pretzels	1" slice banana bread	1 small apple	1/2 cup ice cream	1/3 c. low-fat yogurt with fruit	2" x 2" brownie unfrosted	1/2 c. canned fruit	2/3 cup Chex Mix		1" x 2" brownie frosted	1 unfrosted cupcake	10-12 Doritos	
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## Nutrition Facts

Serving Size 1 cup (8 oz)  
Servings per container 3

### Amount Per Serving

Calories 163    Calories from fat 27

% Daily Value

Total Fat 3 g    4%

Saturated Fat 0 g    0%

Cholesterol 10 mg    3%

Sodium 300mg    17%

**Total Carbohydrates 32 g    10%**

Dietary Fiber 5 g    20%

Sugars 3 g

Protein 2 g

## How to Read a Food Label

1. Look at the serving size

2. Look at total carbohydrates per serving

3. Use the Scale below to know how many carbs you are eating

15 g	1 carb serving
30 g	2 carb serving
45 g	3 carb serving
60 g	4 carb serving

## Carb Counting

Use the chart on the side to see how much carbs are in some common foods.

For example, 1 serving of bread is the same amount of carbs as 1 serving of a small fruit or 1/2 small baked potato.

If you take mealtime insulin, you'll count carbs to match your insulin dose to the amount of carbs in your food and drinks. You may also take additional insulin if your blood sugar is higher than your target when eating.



1 slice of bread = 1 small apple = 1/2 small baked potato

## Measuring Carbs

Carbs are measured in grams. On packaged foods, you can find total carb grams on Nutritional Facts label, like shown above. You can also use the chart on the side or a carb-counting app to find grams of carbs in drinks and foods.

For diabetes meal planning, 1 carb serving is 15 grams of carbs. This isn't always the same as what you think of as a serving of food. For example, most people would count a small baked potato as 1 serving. However, at about 30 grams of carbs, it counts as 2 carb servings.

## Sample Meal Plan

People with Diabetes should aim to get **half** of their daily calories from carbs.

Try to eat the **same** amount of carbs at **each meal** to keep your blood sugar levels steady throughout the day.

Here is a sample plan to guide you:

- 4 Carbs for Breakfast
- 4 Carbs for Lunch
- 4 Carbs for Dinner
- 1-2 Carbs for Snack

<p><b>Fist</b> = 1 cup Example: three servings of pasta or two servings oatmeal (one cup pasta = three servings)</p>	<p><b>Palm or deck of cards</b> = 3 oz. Example: a cooked serving of meat</p>	<p><b>ThumbTip</b> = 1 teaspoon Example: a serving of mayonnaise or margarine</p>	<p><b>Handful</b> = 1 or 2 oz. snack food Example: One ounce nuts = one handful Two ounces pretzels = two handfuls</p>	<p><b>Thumb</b> = 1 oz. Example: a piece of cheese</p>
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## BEWARE! Added Sugar is Hiding in Your Food

Salad dressing, yogurt, bread, spaghetti sauce are all sources of sugar. Sugars are added to many foods during processing, and **added sugars mean added carbs!** It is important to always check the ingredients list or words ending in "ose" (such as fructose or maltose) and any name that includes "syrup" or "juice".

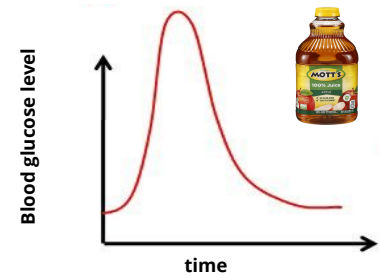
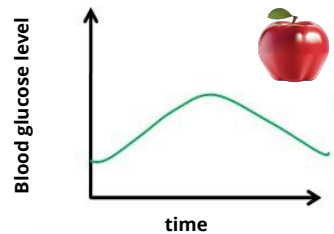


## What are the different types of carbs?

- 1) Sugars, such as natural sugar in fruits and milk or added sugar in soda and many other processed foods.
- 2) Starches, including wheat, oats, and other grains; starchy vegetables such as corn and potatoes; and dried beans, lentils, and peas.
- 3) Fiber, the part of plant foods that isn't digested but helps you stabilize glucose levels.

## Sugars and Starches Raise your Blood Sugar, but Fiber Doesn't

Fiber is important to help stabilize blood sugar levels. For example, eating a serving of apple is not the same as drinking a serving of apple juice. Fiber in the apple helps slow down digestion, which helps maintain blood glucose levels. Without fiber, the sugar is absorbed more rapidly, leading to sharp rise and fall of blood glucose.



## What is HbA1c and why is it important?

- HbA1c values measure the amount of sugar in your blood that is attached to your red blood cells.
  - This value lets your health care providers know how your blood glucose levels have been over the last few months.
  - If you have high sugar in your blood, then more of that sugar will attach to your red blood cells and your HbA1c value will be higher.
  - This test is done with your lab work
- Below is a chart you can use to reference your HbA1c values

A1c (in percentages)	4.56	5.7-6.4 (prediabetes)	6.5	7	High Levels				
					8	9	10	11	12
Average Blood Sugar	68-116	117-137	140	154	183	212	240	269	298

- It is very important to set a goal for your HbA1c levels and a set date to accomplish that goal. Please write down your goal and date below.

**The American Diabetes Association (ADA) recommends an A1c of less than 7 percent. Your doctor may have a different goal for you.**

My A1c

On (date)



# Hypoglycaemia Symptoms

low blood sugar



ANXIETY



WEAKNESS  
FATIGUE



DIZZINESS



FAST  
HEARTBEAT



HEADACHE



BLURRY  
VISION



SHAKINESS



IRRITABILITY



GORGL  
HUNGER

# Hyperglycaemia Symptoms

high blood sugar



STOMACH PAIN



IRRITABILITY



VERY THIRSTY



NEED TO URINATE  
OFTEN

Blood Sugar: Below 70 mg/dl

Blood Sugar: Above 180 mg/dl

\*Note: Both can be very dangerous if untreated, and even deadly.