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

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Recommended Citation
Garlapati, Jay; Clementi, Emilia; Alkhalili, Osama; Alcodray, Yasmeen; and Lewandowski, Elizabeth, "Carbohydrate Guide: Understanding carbohydrates can help YOU prevent risk of diabetes" (2021). *Patient Education Projects*. 227.  
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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.
**ALL ABOUT CARBS**

15 g = 1 carb serving

### 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

### 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.

### 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

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**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 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.

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**Starch**

<table>
<thead>
<tr>
<th>Starch Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 slice (1 oz) bread</td>
<td></td>
</tr>
<tr>
<td>1/2 English muffin</td>
<td></td>
</tr>
<tr>
<td>1/2 hot dog or hamburger bun</td>
<td></td>
</tr>
<tr>
<td>1/4 bagel (1 oz)</td>
<td></td>
</tr>
<tr>
<td>1/2 a bowl of soup</td>
<td></td>
</tr>
<tr>
<td>1/2 a small bowl of cereal</td>
<td></td>
</tr>
<tr>
<td>1/4 large baked potato with skin (1 oz)</td>
<td></td>
</tr>
<tr>
<td>3/4所属 or potato chips</td>
<td></td>
</tr>
<tr>
<td>3 = thin rice crackers</td>
<td></td>
</tr>
</tbody>
</table>

**Starchy Vegetables**

<table>
<thead>
<tr>
<th>Starchy Vegetable Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 unpeeled banana</td>
<td></td>
</tr>
<tr>
<td>1/4 of 12” whole wheat pizza</td>
<td></td>
</tr>
<tr>
<td>1/2 baked potato, 1 medium apple</td>
<td></td>
</tr>
</tbody>
</table>

**Free Foods**

<table>
<thead>
<tr>
<th>Free Food Serving</th>
<th>0 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 banana</td>
<td></td>
</tr>
<tr>
<td>1/2 small apple</td>
<td></td>
</tr>
<tr>
<td>1/2 an orange</td>
<td></td>
</tr>
<tr>
<td>1 cup of milk</td>
<td></td>
</tr>
<tr>
<td>1 cup of water</td>
<td></td>
</tr>
</tbody>
</table>

---

**Combination Foods**

<table>
<thead>
<tr>
<th>Combination Food Serving</th>
<th>2 CHO choices, 2 meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 c. cooked beans and rice</td>
<td></td>
</tr>
<tr>
<td>2 c. low calorie soup</td>
<td></td>
</tr>
</tbody>
</table>

**Fruit**

<table>
<thead>
<tr>
<th>Fruit Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 small banana</td>
<td></td>
</tr>
<tr>
<td>1/2 unpeeled banana</td>
<td></td>
</tr>
<tr>
<td>1 unpeeled peach</td>
<td></td>
</tr>
</tbody>
</table>

**Non-Starchy Vegetables**

<table>
<thead>
<tr>
<th>Non-Starchy Vegetable Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 c. fresh vegetables</td>
<td></td>
</tr>
<tr>
<td>1/2 c. cooked vegetables</td>
<td></td>
</tr>
</tbody>
</table>

**Milk**

<table>
<thead>
<tr>
<th>Milk Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 c. milk</td>
<td></td>
</tr>
<tr>
<td>2/3 c. plain yogurt (0%)</td>
<td></td>
</tr>
</tbody>
</table>

---

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>1 cup (8 oz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servings per container</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Amount Per Serving**
  - Calories: 163
  - Calories from fat: 27%

- **Total Carbohydrates**
  - Total Carbohydrates: 32 g
  - % Daily Value: 10%

- **Total Sugars**
  - Total Sugars: 5 g
  - % Daily Value: 20%

- **Protein**
  - Protein: 2 g

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**Sample Meal Plan**

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

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**How to Measure Carbs**

- Flat = 1 cup
- Palm or deck of cards = 3 oz
- Thumb/Tip = 1 teaspoon
- Handfulful = 1 or 2 oz
- Thumb = 1 oz

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**Snack Ideas**

- 1/2 banana = 15 grams
- 12 small cookies
- 1 slice of bread
- 2 cups of popcorn (popped)
- 2 cups of potato chips
- 2 cups of plain rice
- 2 cups of whole grain rice
- 2 cups of low-sugar cereal
- 2 cups of low-sugar yogurt
- 2 cups of low-fat cheese
- 2 cups of low-fat milk
- 2 cups of low-sugar fruit
- 2 cups of low-sugar desserts

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**Sweet and Desserts**

<table>
<thead>
<tr>
<th>Sweet and Dessert Serving</th>
<th>15g CHO / 1 CHO choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cupcakes of low-sugar cake or brownie (2 oz)</td>
<td></td>
</tr>
<tr>
<td>2 small cookies (2/3 oz)</td>
<td></td>
</tr>
<tr>
<td>1/2 c. ice cream or frozen yogurt</td>
<td></td>
</tr>
<tr>
<td>1/2 c. dehydrated fruit</td>
<td></td>
</tr>
<tr>
<td>2 tbsp. chocolate chips</td>
<td></td>
</tr>
<tr>
<td>2 tbsp. powdered sugar</td>
<td></td>
</tr>
<tr>
<td>2 tbsp. light syrup</td>
<td></td>
</tr>
</tbody>
</table>

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

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**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

<table>
<thead>
<tr>
<th>A1c (in percentages)</th>
<th>4.56</th>
<th>5.7-6.4 (prediabetes)</th>
<th>6.5</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Blood Sugar</td>
<td>68-116</td>
<td>117-137</td>
<td>140</td>
<td>154</td>
</tr>
<tr>
<td></td>
<td></td>
<td>183</td>
<td>212</td>
<td>240</td>
</tr>
</tbody>
</table>

- 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.**
**Hypoglycaemia Symptoms**
low blood sugar

- Anxiety
- Weakness
- Fatigue
- Dizziness
- Fast heartbeat
- Headache
- Shakiness
- Irritability
- Gorging
- 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.*