



What is Carbohydrate Counting?



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Introduction

Carbohydrate counting is a tool used by insulin dependent diabetes patients. It helps them to maintain the blood glucose level at euglycemic state even on days of feast and famine! The underlying principle is that if the person is aware of his carbohydrate intake, then by adjusting his insulin shots he can maintain euglycemic control.

Carbohydrates are one of the main energy giving nutrients found in foods. The other major nutrients are proteins and fats. However, only carbohydrate is only counted as they are easily digested and affect the blood glucose. (Proteins and fats consumed at each meal is not computed as they take longer to digest and does not cause a sudden rise in blood sugars).

The amount of insulin required by individuals varies and it depends on their carbohydrate intake. Hence the carbohydrate content of each meal is computed and the insulin dose is adjusted accordingly ensuring acceptable post-prandial blood sugars. This is particularly useful on non-routine days and on special occasions as it provides the patients with greater flexibility and variety in his eating habits; ensuring good glycaemic control throughout the day.

The Insulin Carb ratio tells us the amount of carbohydrate in grams for which 1 unit of rapid acting insulin is required. Using this insulin to carbohydrate ratio, the patient takes a bolus insulin dose before meals after estimation of carbohydrate in that meal. Patient education of carbohydrate content of different foods is necessary. Reading and understanding the food label ensures better blood sugar control.

Calculation of Insulin Carb Ratio

There are two ways to calculate

I. The ratio can be roughly calculated by using the thumb rule of dividing 500g. of carbohydrates by total insulin daily dose.

Insulin Carb ratio= 500/total daily insulin dose

II. This method is used for patients with good glycaemic control. The total carbohydrate intake of the patients per

day is computed from his dietary recalls and it is divided by the total daily insulin.

Insulin Carb ratio= total carbohydrate intake per day/total daily insulin dose

Carbohydrate Counting Food List

There are a number of carbs counting tables available and the table below shows the carbohydrate content of some commonly used Indian foods. The list of foods given below contains 15gms of carbohydrates. The content may vary depending on the ingredients that are added in the preparation of the dish.

(Foods marked with an asterisk* contain fat; 1 cup=200ml)

Cereals: 15g Carb

- 1/3 cup white rice cooked
- 1/3 cup brown rice cooked
- 1/3 cup tamarind rice
- ½ cup biryani/pulao*
- ½ cup khichadi/khichri cooked
- 1 mini uttapam, 4"
- 2 tbsp tapioca uncooked
- ½ cup wheat sprouted
- ½ cup uppma (cooked)
- 1 slice bread, white, wheat or whole grain
- ½ roti (bajra, makai, jowar)
- 1 Chapati, 6" diameter (25g/3tbsp - whole wheat flour)
- 2 puris 5" *
- 1 dosa approx. 10"diameter
- 1 small idli
- 2 mini rava idlis

Starchy Vegetables: 15g carb

- 1/3 cup plantain green
- ½ cup potato sabji*
- 1 small potato boiled or baked
- ½ cup sweet potatoes
- ½ cup peas
- ½ cup corn
- ½ cup yam
- 1cup mixed veg (corn,peas)

Pulses/dals/beans/non-veg: 15g Carb

- ½ cup cooked pulses- green gram/kidney beans/chickpeas/sambhar
- ¾ cup chicken noodle soup
- 1 ¼ cup chicken curry (chicken has no carbohydrates)
- 1 ¼ cup chicken chettinad curry

Milk/yogurt: 15g Carb

- 350ml regular cow's milk
- 1 cup plain yogurt, nonfat/regular

Fruits/Juices: 15g Carb

- 1 small Apple
- 4 whole apricots (fresh)
- 1 small banana (4oz) or ½ medium
- 3 dates
- 2 medium figs fresh/1 ½ dried figs
- 17 grapes
- 6 jambu

- 1 kiwi
- ¾ cup mandarin oranges
- ½ small mango (½ cup, medium ripe)
- 1 small orange
- 1 cup papaya cubes
- ½ med passion fruit
- ½ large pear or 1 small
- ¾ C fresh pineapples
- 2 small plums/3 dried plums (prunes)
- 1 med custard apple (seetaphal)
- 1 ¼ cup watermelon cubes

Snack foods: 15g Carb

- 30g bhelpuri
- 6 pani puri
- 2 papad
- 4 Marie Biscuits
- 3 cups popcorn
- 1 ½ cup puffed rice
- ½ cup sprouted pulses
- 10 French Fries*

Vegetables: 15g Carb

- ½ cup cooked vegetables (asparagus, greenbeans, bean sprouts, beets, broccoli, cabbage, carrots, cauliflower, eggplant, okra, onions, spinach, tomato, turnips, and zucchini etc.)
- 1 cup raw vegetable.



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