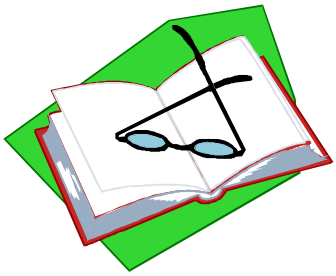
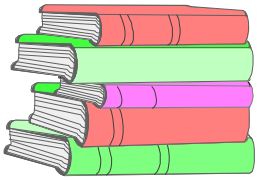
# Questions About Carbohydrate Counting

## What is carbohydrate counting?



Carbohydrate counting simply means keeping track of the amount of carbohydrate you eat at each meal and snack. The amount of carbohydrate you eat at a meal has the most influence on how high your blood glucose will rise after the meal. Protein and fat have very little effect. Being consistent in the amount of carbohydrate you eat at meals from day to day will help keep your blood glucose levels more consistent. You can benefit from carbohydrate counting if you take insulin, pills, or if you just manage your diabetes by healthy eating and regular physical activity.

## How Do I Count Carbohydrate?



You can count carbohydrate in two ways: 1) You can count the number of grams of carbohydrate from food labels or books on gram values of carbohydrate or 2) You can count carbohydrate "choices" or servings where each serving is equal to 15 grams of carbohydrate. A carbohydrate "choice" is also equal to one fruit, starch or milk exchange.

**Counting Grams of Carbohydrate**

1) Food Labels - Look at the Total Carbohydrate information on the Nutrition Facts label for the amount of carbohydrate per serving.

2) Books - Look up carbohydrate gram values of foods in a variety of resource books.

Nutrition Facts
Serving Size 8 fl oz
Servings Per Container 12
Amount Per Serving
Calories 110
Calories from fat 0
Total Fat 0 g
Sodium 0 mg
Total Carbohydrate 28 g
Dietary Fiber 1 g
Sugar 24 g

**Counting Carbohydrate Choices**

1) Use Exchange Lists for Meal Planning and count each serving of fruit, starch or milk as 1 carbohydrate choice (equal to 15 grams of carbohydrate.)

2) Use reference books to look up carbohydrate gram values of foods. Then divide the number of carbohydrate grams by 15.

## Examples of Carbohydrate Counting

| Amount | Food | Exchanges | | | Carbohydrate Choices | Carbohydrate Grams |
|---|---|---|---|---|---|---|
| | | Starch | Fruit | Milk | | |
| **INFORMATION FROM EXCHANGE LISTS** | | | | | | |
| ½ | Grapefruit | | 1 | | 1 | 15 |
| 1-6 inch | Corn tortilla | 1 | | | 1 | 15 |
| 1 cup | Raisin Bran | 2 | | | 2 | 30 |
| **INFORMATION FROM FOOD LABELS AND RESOURCE BOOKS** | | | | | | |
| 1 | Stouffer's Lean Cuisine Chicken Fettucini ® | | | | 3 | 34 |
| 1 | Whopper® | | | | 3 | 47 |
| 1 bar | Häagen-Dazs Ice-cream bar® | | | | 1 ½ | 24 |

## How much carbohydrate should I have at each meal?

This is best answered by a registered dietitian familiar with diabetes management. It will depend on many factors such as your height and weight, your current diabetes treatment, and your eating schedule. If you already have a meal plan, such as a 1200 calorie meal plan, you can easily find out how much carbohydrate you're currently getting at each meal and snack. If you don't have a dietitian, call your local hospital or ask your physician to recommend one. You can also call the American Dietetic Association at 800-366-1655.

## Can my insulin be adjusted based on how much carbohydrate I eat?

Yes, if you take 3 or more injections of insulin each day. You can learn how much insulin you need for the amount of food you plan to eat at each meal. If you are less hungry, you can take less insulin. This gives you more flexibility in deciding what and how much you eat than if you only take one or two injections each day. Talk to your health care team about insulin adjustment and carbohydrate counting.

**Publication # FDNS-E-86-1** **Reviewed by Connie Crawley June 2011**

The University of Georgia and Ft. Valley State University, the U.S. Department of Agriculture and counties of the state cooperating. Cooperative Extension, the University of Georgia Colleges of Agricultural and Environmental Sciences and Family and Consumer Sciences, offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.

**An Equal Opportunity Employer/Affirmative Action Organization**
**Committed to a Diverse Work Force**

**Group 1**

# Menu for Carbohydrate Counting

List an example of foods that total 60 grams of carbohydrate (+/-5) at both lunch and dinner using food labels for breakfast and McDonald's for lunch.

**BREAKFAST**

| Type of Food | Serving Size | Carbohydrate (grams) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Total: |

**LUNCH**

| Type of Food | Serving Size | Carbohydrate (grams) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Total: |

**Group 2**

# Menu for Carbohydrate Counting

List an example of foods using the Exchange Booklet and McDonalds Nutrition Information to get 4 carbohydrate choices from each meal at both lunch and dinner.

## BREAKFAST

| Type of Food | Serving Size | Carbohydrate (choices) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Total: |

## LUNCH

| Type of Food | Serving Size | Carbohydrate (choices) |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | Total: |

# McDonald's®

**Food Item**

**Breakfast Items**

| Food Item | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Egg McMuffin | 300 | 29 | 18 | 12 | 830 | 2 starch<br>1 medium fat meat<br>1 fat |
| Sausage McMuffin | 370 | 28 | 14 | 23 | 790 | 2 starch<br>1 high fat meat<br>2 fat |
| Sausage McMuffin with Egg | 450 | 29 | 20 | 28 | 930 | 2 starch<br>2 high fat meat<br>2 fat |
| English Muffin | 150 | 27 | 5 | 2 | 260 | 2 starch |
| Sausage Biscuit | 410 | 30 | 10 | 28 | 930 | 2 starch<br>1 high fat meat<br>3 1/2 fat |
| Sausage Biscuit with Egg | 490 | 31 | 16 | 33 | 1010 | 2 starch<br>1 high fat meat<br>5 fat |
| Bacon, Egg, & Cheese Biscuit | 480 | 31 | 20 | 31 | 1410 | 2 starch<br>2 high fat meat<br>2 1/2 fat |
| Biscuit | 240 | 30 | 4 | 11 | 640 | 2 starch<br>2 fat |

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Ham and Egg Cheese Bagel | 550 | 58 | 26 | 23 | 1490 | 4 starch<br>2 medium fat meat<br>2 fat |
| Spanish Omelet Bagel | 690 | 60 | 27 | 38 | 1570 | 4 starch<br>2 medium fat meat<br>5 fat |
| Steak and Egg Cheese Bagel | 700 | 57 | 38 | 35 | 1290 | 4 starch<br>4 medium fat meat<br>2 fat |
| Sausage (1 serving) | 170 | 0 | 6 | 16 | 290 | 1 high fat meat<br>11/2 fat |
| Scrambled Eggs (1 order – 2 eggs) | 160 | 1 | 13 | 11 | 170 | 2 medium fat meat |
| Hash browns | 130 | 14 | 1 | 8 | 330 | 1 starch<br>1 fat |
| Hotcakes (plain) | 340 | 58 | 9 | 8 | 630 | 4 starch<br>1/2 fat |
| Hotcakes (margarine- 2 pats & syrup) | 600 | 104 | 9 | 17 | 770 | 7 carbohydrates<br>3 fat |
| Breakfast Burrito | 290 | 24 | 13 | 16 | 680 | 1 1/2 starch<br>1 medium fat meat<br>2 fat |

**Muffins/Danish**

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Low-fat Apple Bran Muffin | 300 | 61 | 6 | 3 | 380 | 4 starch |
| Apple Danish | 340 | 47 | 5 | 15 | 340 | 3 1/2 starch<br>2 fat |
| Cheese Danish | 400 | 45 | 7 | 21 | 400 | 3 starch<br>3 1/2 fat |
| Cinnamon Roll | 390 | 50 | 6 | 18 | 310 | 3 starch<br>3 fat |

**Sandwiches**

| | | | | | | |
|---|---|---|---|---|---|---|
| Hamburger | 280 | 35 | 12 | 10 | 590 | 2 starch<br>1 medium fat meat<br>1 fat |
| Cheeseburger | 330 | 36 | 15 | 14 | 830 | 2 starch<br>2 medium fat meat<br>1 1/2 fat |
| Quarter Pounder | 430 | 37 | 23 | 21 | 840 | 2 1/2 starch<br>2 medium fat meat<br>2 fat |
| Quarter Pounder with Cheese | 530 | 38 | 28 | 30 | 1310 | 2 1/2 starch<br>3 medium fat meat<br>2 1/2 fat |
| Big Mac | 570 | 47 | 24 | 34 | 1090 | 3 starch<br>2 medium fat meat<br>4 fat |

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Big N' Tasty | 540 | 39 | 24 | 32 | 970 | 2 1/2 starch<br>2 high fat meat<br>3 fat |
| Big N' Tasty with cheese | 590 | 40 | 27 | 37 | 1210 | 2 1/2 starch<br>3 high fat meat<br>2 fat |
| Crispy Chicken | 500 | 46 | 22 | 26 | 1100 | 3 1/2 starch<br>2 medium fat meat<br>3 fat |
| Fillet-O-Fish | 470 | 45 | 15 | 26 | 890 | 3 starch<br>1 medium fat meat<br>4 fat |
| Chicken McGrill | 400 | 37 | 25 | 17 | 890 | 2 1/2 starch<br>2 high fat meat |
| Chicken McGrill (without mayo) | 300 | 37 | 24 | 6 | 800 | 2 1/2 starch<br>2 lean meat |
| Grilled Chicken Flatbread Sandwich (with cheese and sauce) | 540 | 56 | 28 | 24 | 1620 | 4 starch<br>2 medium fat meat<br>2 fat |
| Grilled Chicken Flatbread Sandwich – no cheese | 410 | 54 | 21 | 13 | 960 | 3 1/2 starch<br>1 medium fat meat<br>1 fat |
| Grilled Chicken Flatbread Sandwich – no sauce | 460 | 53 | 28 | 16 | 1450 | 3 1/2 starch<br>2 medium fat meat<br>1/2 fat |

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Grilled Chicken Flatbread Sandwich – no cheese or sauce | 340 | 52 | 21 | 7 | 800 | 3 1/2 starch<br>1 lean meat |

**French Fries**

| | | | | | | |
|---|---|---|---|---|---|---|
| French Fries (small) | 210 | 26 | 3 | 10 | 135 | 2 starch<br>1 fat |
| French Fries (medium) | 450 | 57 | 6 | 22 | 290 | 4 starch<br>3 fat |
| French Fries (large) | 540 | 68 | 8 | 26 | 350 | 4 1/2 starch<br>4 fat |
| French Fries (Supersize) | 610 | 77 | 9 | 29 | 390 | 5 starch<br>5 fat |

**Chicken McNuggets/Sauces**

| | | | | | | |
|---|---|---|---|---|---|---|
| Chicken McNuggets ( 4 piece) | 210 | 12 | 10 | 13 | 460 | 1 starch<br>1 medium fat meat<br>1 fat |
| Chicken McNuggets ( 6 piece) | 310 | 18 | 15 | 20 | 680 | 1 1/2 starch<br>1 medium fat meat<br>2 1/2 fat |
| Chicken McNuggets ( 9 piece) | 460 | 27 | 22 | 29 | 1020 | 2 starch<br>2 medium fat meat<br>3 fat |

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Hot Mustard Sauce (1 packet) | 60 | 7 | 1 | 3.5 | 240 | 1/2 carbohydrate<br>1 fat |
| BBQ Sauce (1 packet) | 45 | 10 | 0 | 0 | 250 | 1/2 carbohydrate |
| Honey Mustard (1 packet) | 50 | 3 | 0 | 4.5 | 85 | 1 fat |

**Salads and Salad Dressings**

| | | | | | | |
|---|---|---|---|---|---|---|
| Chef Salad† | 150 | 5 | 17 | 8 | 740 | 1 vegetable<br>2 lean meat |
| Garden Salad† | 100 | 4 | 7 | 6 | 120 | 1 vegetable<br>1 medium fat meat |
| Grilled Chicken Caesar Salad † | 100 | 3 | 17 | 2.5 | 240 | 1 vegetable<br>2 very lean meat |
| Caesar Dressing (1 packet) | 150 | 5 | 2 | 13 | 390 | 3 fat |
| Fat-Free Herb Vinaigrette Dressing (1 packet) | 35 | 8 | 0 | 0 | 260 | 1/2 carbohydrate |
| Honey Mustard (1 packet) | 160 | 13 | 1 | 11 | 260 | 1 carbohydrate<br>2 fat |

| | Calories | Carbohydrates(gm) | Protein(gm) | Total Fat(gm) | Sodium(mg) | Exchanges |
|---|---|---|---|---|---|---|
| Ranch Dressing (1 packet) | 170 | 3 | 0 | 18 | 460 | 4 fat |
| Red French Reduced-Calorie Dressing (1 packet) | 130 | 18 | 0 | 6 | 360 | 1 carbohydrate<br>1 fat |
| 1000 Island (1 packet) | 130 | 11 | 1 | 9 | 350 | 1 carbohydrate<br>2 fat |

† Without dressing

**Desserts/Shakes**

| | | | | | | |
|---|---|---|---|---|---|---|
| Fruit & Yogurt Parfait | 380 | 76 | 10 | 5 | 240 | 5 carbohydrate<br>1 fat |
| Fruit & Yogurt Parfait – no granola | 280 | 53 | 8 | 4 | 115 | 3 1/2 carbohydrate<br>1 fat |
| Vanilla Reduced-Fat Ice Cream Cone | 150 | 23 | 4 | 4.5 | 75 | 1 1/2 carbohydrate<br>1 fat |
| McDonaldland Cookies | 230 | 38 | 3 | 8 | 250 | 2 1/2 carbohydrate<br>1 1/2 fat |

Nutrient values obtained from McDonald's Corporation, 2002

# Food Labels

## Orange Juice

**Nutrition Facts**

**Serving Size** 8 fl oz

Servings Per Container 12

Amount Per Serving

Calories 110

Calories from fat 0

Total Fat 0 g

Sodium 0 mg

**Total Carbohydrate** 28 g

- Dietary Fiber 1g
- Sugars 24 g

Protein 2 g

| | |
|---|---|
| Vit C 130% | Niacin 4% |
| Calcium 2% | Folate 15% |
| Thiamin 10% | Vit B6 6% |

# Food Label

## Vanilla Wafers

**Nutrition Facts**

**Serving Size** 8 wafers

Servings Per Container 11

Amount Per Serving

Calories 120

Calories from fat 20

Total Fat 2g

- Saturated Fat 0g
- Polyunsaturated Fat 0g
- Monounsaturated Fat .5g

Cholesterol 0mg

Sodium 105 mg

**Total Carbohydrate** 24 g

- Dietary Fiber 0g
- Sugars 12 g

Protein 1g

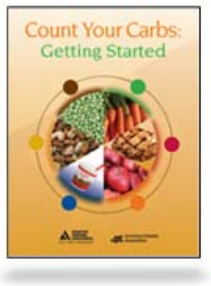
| | |
|---|---|
| Vit A 0% | Vit C 130% |
| Calcium 2% | Iron 4% |

# Carbohydrate Counting Resources

## General Information on Carbohydrate Counting:

- ***The American Diabetes Association Complete Guide to Carb Counting*** (3rd Edition)
  Karmeen Kulkarni, MS,RD,CDE and Hope Warshaw, MMSc, RD,CDE
  http;//store.diabetes.org

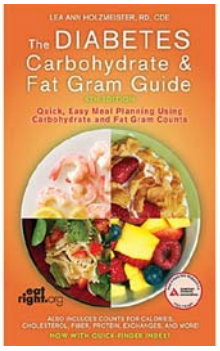
- ***Carbohydrate Counting 4th edition***
  International Diabetes Center Publishing – 888-637-2675 or
  www.idcpublishing.com




- ***Count Your Carbs: Getting Started (Spanish too)***
  The American Dietetic Association
  www.eatright.org

## Carbohydrate Values of Foods Without Nutrition Labels:

- ***The Diabetes Carbohydrate and Fat Gram Guide 4th edition***
  Lea Ann Holzmeister, RD
  American Diabetes Association 800-232-6733 or
  http;//store.diabetes.org




- ***The Complete Book of Food Counts* 9th edition**
  Corinne Netzer, Dell Publishing
  Pre-order to be published Dec. 2011

- ***Barbara Kraus' Calories and Carbohydrates, 16th Edition***
  Marie Reilly-Pardo, www.amazon.com and major bookstores

## Web site for carbohydrate counts:

www.calorieking.com (click on database)

## Carbohydrate Values for Restaurant Foods:

- Fast Food web sites such as www.mcdonalds.com or www.pizzahut.com

- ***ADA Guide to Healthy Restaurant Eating, 4rd Edition***
  Hope Warshaw, American Diabetes Association -
  http;//store.diabetes.org

**Publication # FDNS-E-86-1** **Reviewed by Connie Crawley, MS, RD, LD 2013**

The University of Georgia and Ft. Valley State University, the U.S. Department of Agriculture and counties of the state cooperating. Cooperative Extension, the University of Georgia Colleges of Agricultural and Environmental Sciences and Family and Consumer Sciences, offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, gender or disability.

**An Equal Opportunity Employer/Affirmative Action Organization**
**Committed to a Diverse Work Force**