



Carbohydrates and Weight Loss



Carbohydrate:

A Macronutrient Our Body Uses for Energy

Provides energy for the body to function properly by every cell in the body, even the brain.



Provides energy for activities of daily living and exercise.

Calories of Macronutrients:

- Carbohydrate 4 calories/gram
- Protein 4 calories/gram
- Fat 9 calories/gram
- Alcohol 7 calories/gram

What Foods Contain Carbohydrate?



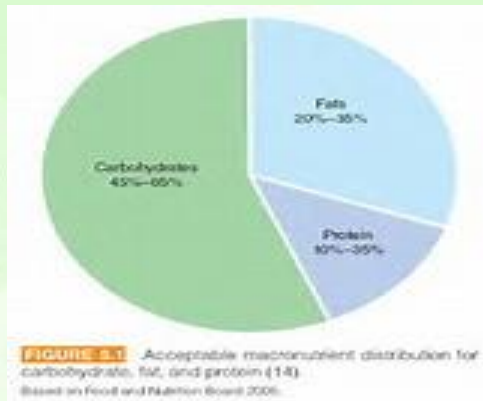
Carbohydrates are in a lot more foods than you think!

- Grains and grain products
 - Wheat, Oats, Barley, Rye..
- Fruits
 - Oranges, Apples, Grapes..
- Vegetables
 - Potatoes, peas, broccoli...
- Beans and legumes
 - Black beans, lima beans..
- Dairy products
 - Milk, yogurt, ice cream..
- Sugars
 - Table sugar, honey, candy..

How Many Carbohydrates Should I Eat?

AMDR for macronutrients:

- Carbohydrate 45%-65%
- Protein 10%-35%
- Fat 20%-35%



AMDR = Acceptable Macronutrient
Distribution Range

Recommended Servings per Day:



Milk/Dairy Foods: 2 – 3 Servings

Fruits: 2 – 3 Servings

Vegetables 2 ½ cups

Grains: 4 – 5 oz. for Women

5 – 6 oz. for Men

*Based on guidelines provided for Weight Loss
Solution patient's for weight loss.

Why are Carbs Important in Your Diet?



Spares protein from being used as energy

Protein—necessary for maintenance, repair & growth of body tissues

Helps prevent fatigue during activity

When muscle stores are depleted, fatigue sets in

Prevents you from developing a condition called *ketosis*

Symptoms include weakness, fatigue, nausea, and dehydration

Can lead to muscle breakdown due to lack of carbohydrates for energy

Rich sources of other essential nutrients

B Vitamins, Vitamin C, iron, potassium, magnesium, selenium

Simple vs. Complex Carbs

Simple Carbs



- Made of 1 or 2 sugar molecules—mono- and di-saccharides
- Digest rapidly
- Often low in nutrients (Excluding fruits, vegetables & dairy foods)
- Examples:
 - Fruit, some vegetables, dairy products
 - Foods which contain added sugars: cookies, pies, cakes, candies, sodas, sweet tea, sports drinks

Complex Carbs



- Made of many sugar molecules strung together like a chain—polysaccharides
- Digest more slowly
- Often rich in other nutrients
- Examples:
 - Whole-grains, oats, rice, barley, rye
 - Starchy vegetables like corn, peas and potatoes
 - Legumes such as bean, lentils, and peas

Added Sugars



- Definition: Sugars and syrups added to foods during processing or preparation, and sugars and syrups added at the table.
- 1 gram sugar = 4 calories
- 1 tsp sugar = 4 grams sugar = 16 calories
- American Heart Association recommends → Upper limit of ½ of the discretionary calories allowance. For most adults:
 - Women—100 calories—6 tsp sugar
 - Men—150 calories—9 tsp sugar
- One 12-oz regular soda contains 140 cal from added sugar—9 tsp sugar!
- 2 sticks of chewing gum provide 1 teaspoon sugar!

Sugar

Natural Sugar

- Whole Foods (grains, fruits, veggies, beans, . . .)
 - Glucose
 - Sucrose
 - Fructose
- Dairy
 - Lactose



Added Sugar

Agave Nectar	Brown sugar
Corn sweetener	Corn syrup
Dextrose	Evaporated cane juice
Fructose	Fruit juice concentrate
Glucose	High Fructose Corn
Syrup	Honey
Invert sugar	Lactose
Maltose	Malt syrup
Maple syrup	Molasses
Molasses	Raw sugar
Raw sugar	Sucrose
Sugar	Syrup



Sugars On the Food Label

High Fructose corn syrup is added sugar in the ingredient list below:



There are no added sugars in the ingredient list for fat free milk.

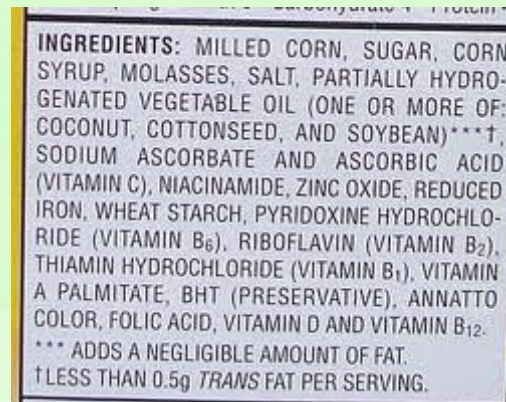


The 12 grams of sugar listed in the ingredient list below are all from the natural sugar in milk.

GALLON MILK LABELS - Fat Free


Nutrition Facts		Amount/Serving	%DV*	Amount/Serving	%DV*
Serving Size 1 cup (240 mL)		Total Fat 0g	0%	Potassium 410mg	11%
Servings 16		Sat. Fat 0g	0%	Total Carb. 13g	4%
Calories 90		Trans Fat 0g		Fiber 0g	0%
Fat Cal. 0		Cholest. <5mg	2%	Sugars 12g	
		Sodium 130mg	5%	Protein 9g	
		Vitamin A 10% • Vitamin C 2% • Calcium 30% • Iron 0% • Vitamin D 25%			
*Percent Daily Values (DV) are based on a 2,000 calorie diet.					
INGREDIENTS: FAT FREE MILK, VITAMIN A PALMITATE, VITAMIN D3.					
A GLUTEN FREE PRODUCT					

Sugars in the Ingredient List



Added sugars on the label above are:
sugar, corn syrup & molasses

Many Foods Have Added Sugar

THE HIDDEN SUGAR IN YOUR FOOD	
	BREAKFAST
	Teaspoons of sugar
	■ Kellogg's Special K Red Berries (30g serving) 3
	■ Tropicana smooth orange juice (200ml) 5
	■ Yakult probiotic drink (65ml) 2
	■ Jordans Country Crisp (45g serving) 4
	LUNCH
	■ Heinz Cream of Tomato Soup with two slices of white bread 3
	■ Marks & Spencer chicken, bacon and sweetcorn pasta salad (380g) 2.5
	■ Boots Shapers houmous and falafel wrap 1.5
	■ Innocent mango and passion fruit smoothie (250ml) 7
	'HEALTHY' SNACKS
	■ Banana 8
	■ Muller Corner Tropical Crunch (150g) 4
	■ Boots Shapers watermelon, mango and grape salad (190g) 5
	■ All-Bran honey and oats bar 4.5
	NAUGHTY SNACKS
	■ Butterkist toffee popcorn (200g) 34
	■ Mars Bar 6.5
	■ Coca-Cola can (330ml) 7
	DINNER
	■ Tesco Finest Lasagne Al Forno (400g) 4
	■ M&S king prawn makhani and naan 5.5
	■ M&S Dry cured gammon with greenpea and bean vegetable layer with minted butter 7
	■ Asda creamy tomato pasta bake (500g) 6.5

What is Fiber?



- Fiber is a type of carbohydrate
- Found in plant foods: Vegetables, Fruits, Whole Grains, & legumes
- Part of the plant NOT digested
- “Roughage”—nature’s broom

Benefits of Fiber



- May lower risk of chronic disease development such as type 2 diabetes, some cancers, and heart disease
- Helps your gastrointestinal tract stay healthy— such as preventing diverticulosis
- Improved blood sugar control
- Helps lower cholesterol and other blood lipids
- May enhance weight loss by increasing sensation of fullness
- Helps prevent constipation

How Much Daily Fiber?



In general daily intake recommended:

men-38 grams

women-25 grams

50 years and older

men-30 grams

women-21 grams

Examples of Fiber-Rich Foods

<u>Whole Grains</u>	<u>Fiber</u>
Oatmeal (1 cup)	4.0 g
1 slice Whole Grain Bread	1.9 g
Brown Rice (1cup)	3.5 g
Popcorn (3 cups)	3.5 g

<u>Legumes</u>	<u>Fiber</u>
White Beans ½ cup	4 g
Black or Pinto Beans (1/2 cup)	7.5 g

<u>Nuts/Seeds</u>	<u>Fiber</u>
Almonds 1 oz.	3.5 g
Sunflower Seed Kernels (1/4 cup)	3.9 g

Soluble Fiber



<u>Vegetables</u>	<u>Fiber</u>
Broccoli (1 cup cooked)	5.1 g
Carrots (1 medium raw)	1.7 g
Baked Potato with skin (1 small)	3 g

<u>Fruits</u>	<u>Fiber</u>
(1 medium)	
Apple, with skin	4.4 g
Pear, with skin	5.5 g
Raspberries (1 cup)	8.0 g

Insoluble Fiber



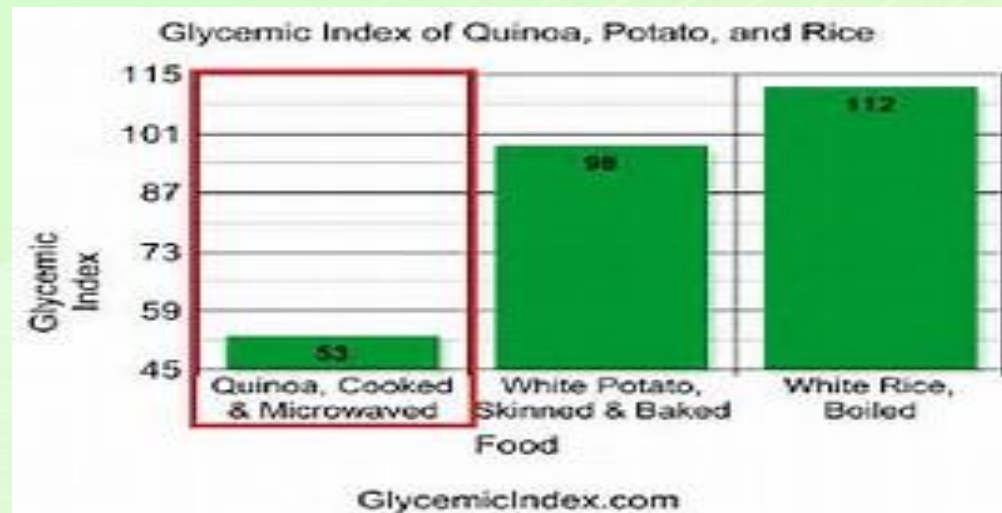
More on Fiber

- Foods with fiber are often rich in other essential nutrients
- The more processed or refined a food is, the fewer nutrients it contains and the less fiber it has
- Foods with fiber often contain less fat
- Look for 3 grams or more of fiber per serving on Nutrient Facts Labels



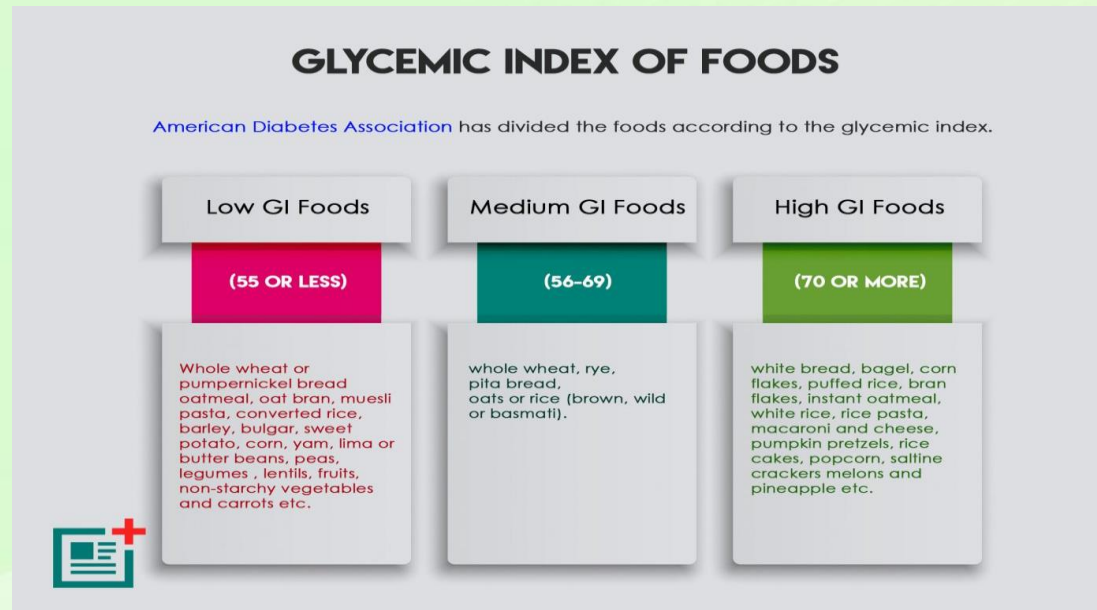
What is the Glycemic Index?

- GI: a measure of the effect a particular food has on an individual's blood sugar level compared to a reference food.



Used as a way to determine healthfulness of foods.

What is the Glycemic Index?



Scale for rating foods Glycemic Index:

Low: <55 or less

Medium GI: 55-70

High GI FOODS >70

Foods with a low GI may decrease risk for heart disease and diabetes

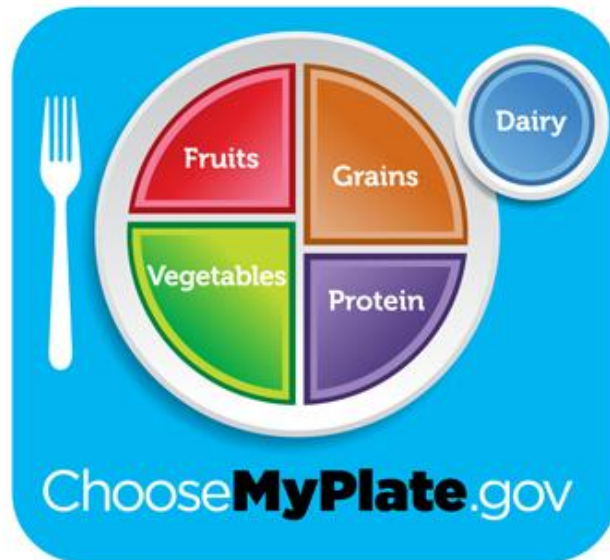
Refined Carbohydrates

Don't be fooled!



- What are they?
 - Whole grains (rice, wheat, flour) that have been processed
 - Removes the bran and germ from the kernel, leaving only the inner endosperm
 - Contains very few vitamins, minerals, and little fiber
- Examples:
 - White rice and all-purpose flour
 - Fat-free dessert items (muffins, cookies, ice cream)
 - Most sweets and processed foods

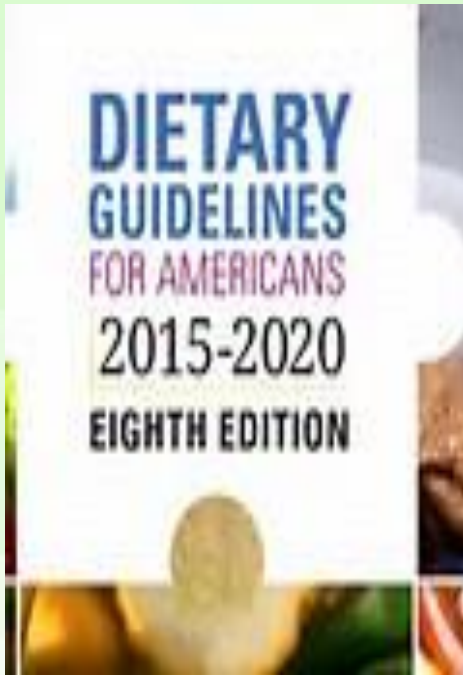
Use My Plate to Get Ensure Adequate Carbohydrate Intake



- Make $\frac{1}{2}$ your grains whole grains
- Make $\frac{1}{2}$ your plate fruits and vegetables
- Make milk at meals low fat

In Summary:

Guidelines to live by:



- 45%-65% of calories
- Make ½ your grains whole
- Make ½ your plate fruits and vegetables
- “Portion potion”
- Glycemic Index—only a tool
- Read food labels carefully
- Look for 3g fiber per serving
- Limit added sugars to 6 tsp for women, 9 tsp for men
- Combine a carbohydrate with protein to feel full longer Example: apple slices & reduced-fat cheese