

Nutrition Basics Handout

Presented to you by your Diabetes Care Team



Diabetes Education & Management Program

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Class Objectives:

- Participants will learn how to make healthy food choices
 - what to eat, when to eat, and how much to eat
- Participants will gain an understanding of how different nutrients effect their blood glucose levels
- Participants will be introduced to meal planning approaches
 - The Plate Method and Carbohydrate Counting
- Participants will understand how to make heart healthy food choices



Basic Healthy Eating Principles

- Eat a Variety of Foods

- All foods can fit into a healthy diabetes eating plan
- Choices more whole grains, beans, vegetables, and fruits
- Use less fat, sugar, and salt
- Eat well-balanced meals with carbohydrate, protein, and a small amount of healthy fat

- When to Eat

- Spread meals out over the entire day
- All foods can fit into a healthy diabetes eating plan
- Eat at consistent times each day
- Avoid eating one or two large meals
- Do not skip meals
- Work snacks into your meal plan, if needed

- How Much to Eat

- Try to eat the same amount of food at each meal
- Plan meals to include similar amounts of carbohydrate
 - 3-5 carbohydrate choices/meal
- Be aware of portion sizes!

Two Types of Carbohydrates (simple and complex)

- **Simple Carbohydrates = Sugars**
 - Natural Sugars
 - Fruit and Fruit Juice (fructose or fruit sugar)
 - Milk and Yogurt (lactose or milk sugar)
 - Added Sugars
 - Table sugar (sucrose)
 - Honey
 - High Fructose Corn Syrup
 - Sweets and desserts made with sugar - regular soda, jello, candy, cake, cookies, pie

- **Complex Carbohydrates = Starches**
 - Breads, cereals and grains, pasta, starchy vegetables, crackers, beans, peas, lentils
 - Complex Carbohydrates are a major source of dietary fiber

- Dietary fiber is not completely digested and absorbed like other carbohydrates

Insoluble fiber - ↓ constipation, ↓ cancer risk, ↓ heart disease

Soluble fiber - ↓ blood fat levels and improve glucose control

The goal is to consume 25-35 grams of fiber per day.

Sources of Fiber

Soluble Fiber (to help lower blood fats and blood glucose)		Insoluble Fiber (to help prevent constipation and disease risk)
Oats	Rice bran	Whole grains
Oat bran	Corn bran	Whole-grain products:
Oatmeal	Kidney beans	Bread, cereal, crackers
Barley	Pinto beans	Brown rice and pasta
Dried	Black beans	Raw Vegetables
peas	Fresh fruit	Fresh fruit



Serving Sizes for Carbohydrate Foods

Every Serving of Carbohydrate = 15 grams of Carbohydrate

Serving Sizes for Grains, Beans and Starchy Vegetables (15 g carb):

- 1 slice of bread, ½ a hot dog or hamburger bun, 1 oz bagel or English muffin
- 1 small potato – 3 oz
- 1/3 c. cooked rice or pasta
- ½ c. cooked cereal, beans, or corn
- ¾ c. dry, unsweetened cereal (but read the label)
- ½ c. green peas
- ½ c. mashed potatoes or sweet potato
- 1 c. acorn or butternut squash
- 6 crackers



Serving Sizes for Fruits (15 g of carb):

- 1 small apple – 4 to 6 oz.
- 1 c. fresh berries
- ½ c. canned fruit in its own juice or water
- 1 c. cubed melon
- 17 grapes
- 1 small banana
- 1 medium peach or orange
- ½ grapefruit
- 12 fresh cherries
- 2 TBSP of raisins
- ¼ c. dried fruits
- ½ c. fruit juice – 4 oz.



Serving Sizes for Milk (15 g of carb):

- 1 c. low-fat or non-fat milk
- 6-8 ounce yogurt with “lite” or “light” on the label

Serving Sizes for Non-Starchy Vegetables (5 g carb) *Do not count these in your carbohydrate plan:*

- 1 c. raw vegetables or ½ c. cooked vegetables
- 3 cups raw or 1 ½ cups cooked = 1 carbohydrate choice

Additional Carbohydrates (15g of carbohydrate): *It is best to look at the label!*

- 2 small cookies
- ½ cup ice cream (regular, light, or fat free, no sugar)
- ¼ cup of sherbet
- ½ cup of sugar free pudding
- 2 inch brownie square or cake with no icing
- 5 vanilla wafers, 3 ginger snaps
- 3 cups popcorn
- ¾ oz pretzels, potato chips
- Fruit juice bar 100% juice
- 1 TBSP jelly, jam, honey, syrup



Practice measuring portions until you improve your estimation skills!

Don't Ignore Protein and Fat

Meals should be balanced with adequate protein and fat.

Most adults need only 6 ounces of protein a day.

Large portions of protein may adversely affect your blood sugar.

Meals without protein may cause your blood sugar to rise faster than desired.

Include small amounts of healthy fats in your meals.

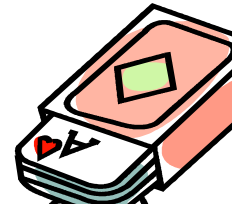
A high fat meal will delay the rise of your blood sugar.

Eating too much protein and fat may cause weight gain and other diabetes-related complications such as heart disease and kidney disease.

Meat and Meat Substitutes to Choose:

- Cooked lean meat, poultry, or fish
- low-fat or fat-free cottage cheese
- 1 egg or 1 slice cheese (equals 1 oz meat)
- 1 Tbsp of peanut butter (equals 1 oz meat)
- Tofu

3 oz. of meat :



Fats and Serving Sizes (goal is 0-3 servings per meal):

- 2Tbsp – Avocado or Lite salad dressing
- 1 oz nuts (examples – 10 peanuts, 6 almonds)
- 1 tsp of oil, margarine, butter, or mayonnaise
- 1 Tbsp – Seeds, Oil, Margarine, Mayonnaise, Salad dressing
- 2 Tbsp half and half, sour cream

Free Foods have less than 5 g of carbohydrate per serving. Be aware and avoid large portions of these foods. Examples include:

- 1 Tbsp fat-free or low fat: cream cheese, salad dressing, or sour cream
- Sugar-free gelatin
- 1 piece of hard, sugar-free candy
- 1 Tbsp catsup or pickle relish
- Coffee, tea, diet soft drinks
- ¼ cup salsa
- Seasonings: garlic, fresh & dried herbs, spices

Label Reading Tips:

Be sure to look at :

- Serving size
- Total carbohydrate
- Sodium
- Total and Type of Fat

Nutrition Facts	
Serving Size 1 cup (228g) Servings Per Container 2	
Amount Per Serving	
Calories 250	Calories from Fat 110
% Daily Value*	
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

1 Start Here →

2 Check Calories

3 Limit these Nutrients

4 Get Enough of these Nutrients

5 Footnote

6 Quick Guide to % DV

• 5% or less is Low

• 20% or more is High

Meal Planning Approaches: The Plate Method

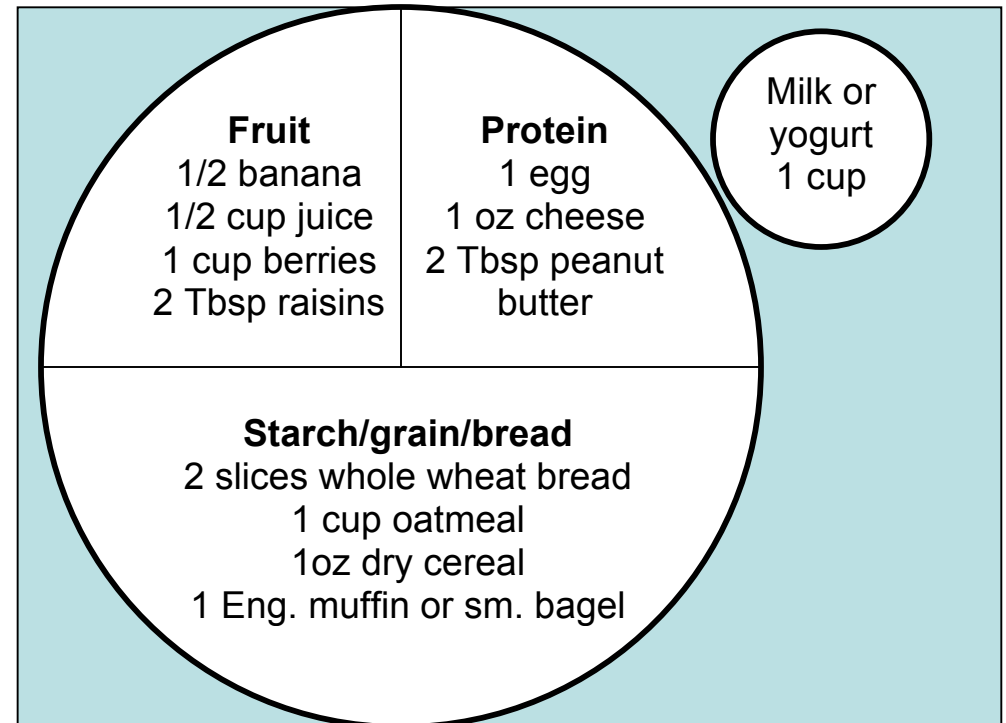
The Plate Method is a meal planning approach that promotes consistent carbohydrate, low fat meals for blood glucose control and heart health. Below are the guidelines for following the plate method, and on the reverse is a sample plate. The Plate Method works best when using a 9-inch plate.

A healthy daily meal plan includes at least:

- 🥕 2-3 servings of non-starchy vegetables
- 🥕 2 servings of fruit
- 🥕 6 servings of grains, beans, and starchy vegetables
- 🥕 2 servings of low-fat or fat-free milk
- 🥕 About 6 oz. of meat or meat substitute
- 🥕 *Small* amounts of fat & sugar

- **Carbohydrates.** Your meals should include approximately 3 or 4 carbohydrate choices, which is equivalent to 45 to 60 grams of carbohydrates. (*1 carbohydrate choice equals 15 grams of carbohydrates*) Carbohydrates are grains, legumes, fruits, starchy vegetables, and dairy. Choose whole grains over processed, refined grains.
- **Vegetables.** Fill half your plate with 1 cup or more of non-starchy vegetables such as lettuce, cabbage, cucumbers, peppers, mushrooms, onions, garlic, beets, green beans, broccoli, celery, carrots, cauliflower and tomatoes. An easy way to meet this requirement is to eat a small salad along with your side vegetable.
- **Lean Protein.** The protein section should provide 3 ounces of meat or meat substitute, the same dimensions as a deck of cards. Examples are: poultry, fish, and lean steak. Examples of vegetarian sources of protein are: beans, tofu, cheese, eggs, and peanut butter.

Plate Method at Breakfast



THE PLATE METHOD

Non-Starchy Vegetables

- Cucumbers
 - Carrots
 - Cabbage
 - Cauliflower
 - Green beans
 - Leafy greens
 - Lettuce
 - Tomatoes
 - Celery
 - Peppers
 - Eggplant
 - Broccoli
 - Asparagus
 - Spinach
 - Mushrooms
- Serving = 1 cup raw
or ½ cup cooked*

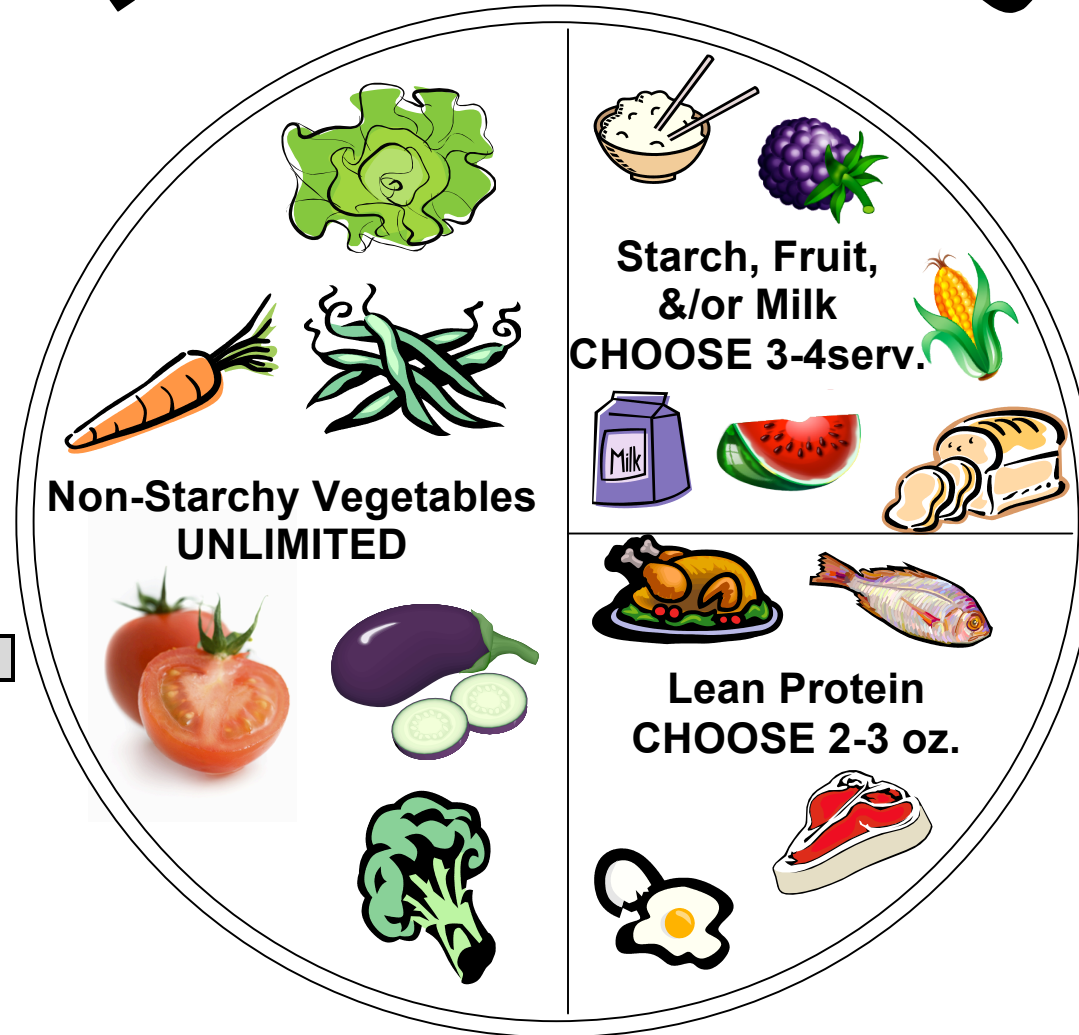
Lean Protein

MEAT

- Fish
- Chicken
- Turkey
- Pork loin
- Lean beef
- Seafood

NON-MEAT

- Beans* ½ cup*
- Eggs 1 egg
- Peanut Butter 1 Tbsp
- Tofu ½ cup
- Low-fat Cheese 1 slice



**Non-Starchy Vegetables
UNLIMITED**

**Starch, Fruit,
&/or Milk
CHOOSE 3-4serv.**

**Lean Protein
CHOOSE 2-3 oz.**

Sources of Carbohydrate

Starches

- Potatoes
 - Corn
 - Dry beans
 - Peas
 - Macaroni
 - Pasta
 - Rice
 - Breads
 - Crackers
 - Pretzels
 - Muffins
 - Waffles
 - Pancakes
- ½ cup (for Dry beans, Peas, Macaroni, Pasta, Rice)
- 1/3 cup (for Breads, Crackers, Pretzels, Muffins, Waffles, Pancakes)
- read label (for Pretzels, Muffins, Waffles, Pancakes)

Fruits

- Orange
 - Pear
 - Apple
 - Kiwi
 - Peach
 - Banana
 - Mango
 - Grapefruit
 - Berries
 - Grapes
 - Pineapple
 - Cantaloupe
 - Watermelon
- 1 fruit (for Orange, Pear, Apple, Kiwi, Peach)
- ½ fruit (for Banana, Mango, Grapefruit)
- 1 cup (for Berries, Grapes, Pineapple, Cantaloupe, Watermelon)

Milk

- Skim milk
 - Low fat milk
 - Lite yogurt
- 1 cup (for Skim milk, Low fat milk, Lite yogurt)

1 serving of carbohydrate = 15 grams

*count as one carbohydrate serving

Meal Planning Approaches: Carbohydrate Counting

Carbohydrate Counting emphasizes the total amount of carbohydrate not the source

➤ Carbohydrate consistency and portion control

- One carbohydrate serving = 15 grams of carbohydrate
- Goal for most people = 3-5 carbohydrate servings/meal, which is 45 – 75 grams/meal

Breakfast Examples

- 1 English muffin
- ½ cup grits
- 1 poached egg
- 1 small banana
- Coffee with Splenda

How many carbohydrate servings are in this meal?



Breakfast Examples

- 1 ½ cup cheerios
- 1 cup 2% milk
- ½ cup orange juice
- Coffee with 2 Tbsp. low-fat milk

How many carbohydrate servings are in this meal?



Lunch Examples

- 1 cup tomato soup
- Grilled cheese sandwich
(2 slices bread, 2 slices cheese, 2 tsp. margarine)
- 1 cup cantaloupe cubes
- 1 large oatmeal-raisin cookie
- Tea with Splenda

How many carbohydrate servings are in this meal?



Lunch Examples

- 2 slices wheat bread
- 1 slice (1 oz) low-fat Swiss cheese
- 1 slice turkey (1 oz.)
- Carrot sticks
- 17 small grapes
- 1 cup light yogurt
- Diet Coke

How many carbohydrate servings are in this meal?



Dinner Examples

- 1 large sweet potato (9oz)
- 1 pork chop (4oz)
- ½ cup collard greens
- 1 cup fruit cocktail
- Iced tea (unsweetened)

How many carbohydrate servings are in this meal?



Dinner Examples

- 1 cup pasta
- 1/2 cup spaghetti sauce
- 3 meatballs
- 2 Tbsp. parmesan cheese
- Green salad
- 1 breadstick
- ½ cup light ice cream
- Water

How many carbohydrate servings are in this meal?



Heart Healthy Eating

Sources of Fat and Cholesterol:

Food contains three types of fats, and some are better for you than others, depending on how they affect your cholesterol:

Unsaturated Fat <i>Preferred fat sources, in small amounts</i>	Saturated Fat <i>Limit these fat sources</i>	Trans Fat <i>Avoid these fat sources</i>
<u>Monounsaturated</u> Oil (olive, canola, peanut) Olives Avocados Peanut butter Nuts (peanuts, cashews, almonds) ➤ ↓ LDL cholesterol ➤ ↑ HDL cholesterol	Meat Cheese Egg yolk Whole milk 2% milk Ice cream Butter Bacon Sour cream Fatback Coconut oil Shortening Hydrogenated vegetable oil Poultry skin ➤ ↑ LDL cholesterol	Partially hydrogenated vegetable oil (may be found in vegetable shortening, some margarines, crackers, cookies, snack foods) ➤ ↑ LDL cholesterol ➤ ↓ HDL cholesterol
<u>Polyunsaturated</u> Oil (Corn, Safflower, Soybean) Margarine Mayonnaise Walnuts Sesame Seeds Omega fatty acids in fish ➤ ↓ LDL cholesterol		

❖ Remember that all fats are high in calories and, in excess, can contribute to weight gain.

Ways to Limit Total and Saturated Fat:

- Choose lean meats, fish and poultry
- Use skim or low-fat milk
- Limit egg yolks to three times per week
- Limit high-fat animal products such as bacon, hot dogs, cheese and butter
- Limit commercially prepared baked and snack foods
- Use monounsaturated fat for cooking and to replace other oils
- Limit trans fat to as little as possible

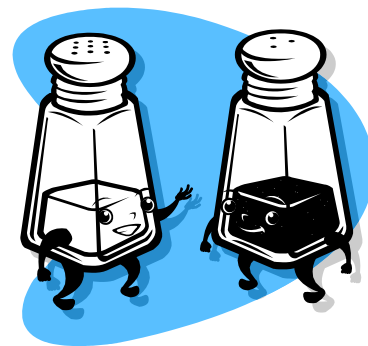


Sodium

- Half of the people with diabetes also have high blood pressure
- Reducing dietary sodium may help reduce blood pressure
- Sodium recommendations (American Heart Association): $\leq 1,500$ mg per day
- The amount of sodium in 1/2 tsp. of salt = 1,200 mg

Ways to Reduce Sodium in Your Diet:

- Decrease salt in cooking
- Remove the salt shaker from the table
- Eat smaller portions of high sodium foods
- Try seasonings and spices that can add flavor without adding sodium like Mrs. Dash
- Look for lightly salted or no salt added
- Avoid:
 - Fast foods
 - Canned foods
 - Salty snacks
 - Rice/noodle mixes and boxed meals
- Choose pre-packaged foods that are:
 - **Less than 400 mg** per serving for snacks and side dishes
 - **Less than 800 mg** per serving per entrée



CHOOSING SNACKS

Choose one from each circle for a healthy, satisfying snack.

CARBOHYDRATES



Grains

- 1 oz bagel
- $\frac{1}{2}$ English muffin
- 20 pretzels sticks
- 2 4-in. rice cakes
- 6 crackers
- 12-15 veggie chips
- $\frac{1}{2}$ whole wheat pita
- $\frac{1}{4}$ cup low-fat granola
- 2 slices reduced calorie bread
- 1 whole wheat tortilla (6 in.)
- 3 graham cracker squares
- 3 cups light popcorn

Fruits

- 1 $\frac{1}{4}$ cup whole strawberries
- $\frac{3}{4}$ cup blackberries or blueberries
- 1 cup cantaloupe or honeydew
- 1 $\frac{1}{4}$ cup watermelon
- 1 small apple or pear
- $\frac{1}{2}$ cup cherries
- 1 medium peach
- 2 tbsp. raisins
- 17 grapes



Dairy

- 8 oz. low fat or fat-free milk
- ~6-8 oz. lite yogurt
- $\frac{1}{2}$ cup ice cream
- $\frac{1}{2}$ cup sf pudding

PROTEIN



Meats

- 1-2 oz. white meat, skinless, chicken, turkey
- 1 hard boiled egg
- $\frac{1}{2}$ cup egg whites
- 1-2 oz. deli meat
- 1-2 oz. turkey/tuna/egg salad made with light or fat-free mayo
- 1-2 oz. salmon

Cheese

- 1 oz. part-skim block cheese, soy cheese or string cheese
- $\frac{1}{4}$ cup part-skim grated cheese
- $\frac{1}{4}$ cup low fat or fat-free cottage cheese
- 2 tbsp fat-free cream cheese

Beans & Dip

- $\frac{1}{3}$ cup hummus
- $\frac{1}{2}$ cup tofu
- $\frac{1}{3}$ cup bean dip
- $\frac{1}{4}$ - $\frac{1}{2}$ cup edamame
- 1 oz soynuts



Nuts & Seeds

- 1 oz. sunflower, pumpkin, or sesame seeds
- 1 oz. pecans, walnuts, almonds, cashews, or peanuts
- 1 oz. peanut, almond, or cashew butter

NOTES:

Thank you for attending “Nutrition Basics”.