

## Class Three

# The Importance of Carbohydrates



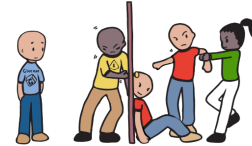
## Objectives

In this class, you will:

- Share an experience using your resilience resources to enhance your diabetes care
- Reflect on your diabetes social support team and how you can enhance this support
- Discuss the importance of carbohydrates
- Learn what foods have carbohydrates and what foods are carbohydrate-free
- Learn what foods have carbohydrates that raise blood sugar slowly vs. spike blood sugar
- Learn how to read a packaged food's nutrition facts label
- Discuss healthy snack options that combine a carbohydrate with a protein



**Group Discussion: Resilience Check-In**



**Check-in:** How is everyone doing checking their blood sugar? Practice again as a group.

**Share an experience checking your blood sugar (either in the morning, or before and two hours after a meal). What did you learn? What are your questions?**

**Which resilience resources did you use this past week, and how were they helpful?**

*(think of at least 1 thing, write it down)*

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**Resilience Resources Help You Live a Long and Healthy Life with Diabetes**

**Finding Positive Meaning** – Thinking about the positive things associated with diabetes.

**Coping Strategies** – Thoughts and behaviors that enable you to cope effectively with diabetes (e.g., engaging in enjoyable activities; asking for help; support from family, friends, and significant others; spiritual/faith practices).

**Managing Your Emotions** – Awareness and acceptance of your emotions. Balancing positive and negative emotions and expressing your emotions in a healthy way.

**Using Stress to Grow** – To persevere and adapt in the face of stress and adversity.

**Building Self-Confidence** – Confidence in managing your diabetes even when stressed.





**GROUP ACTIVITY**

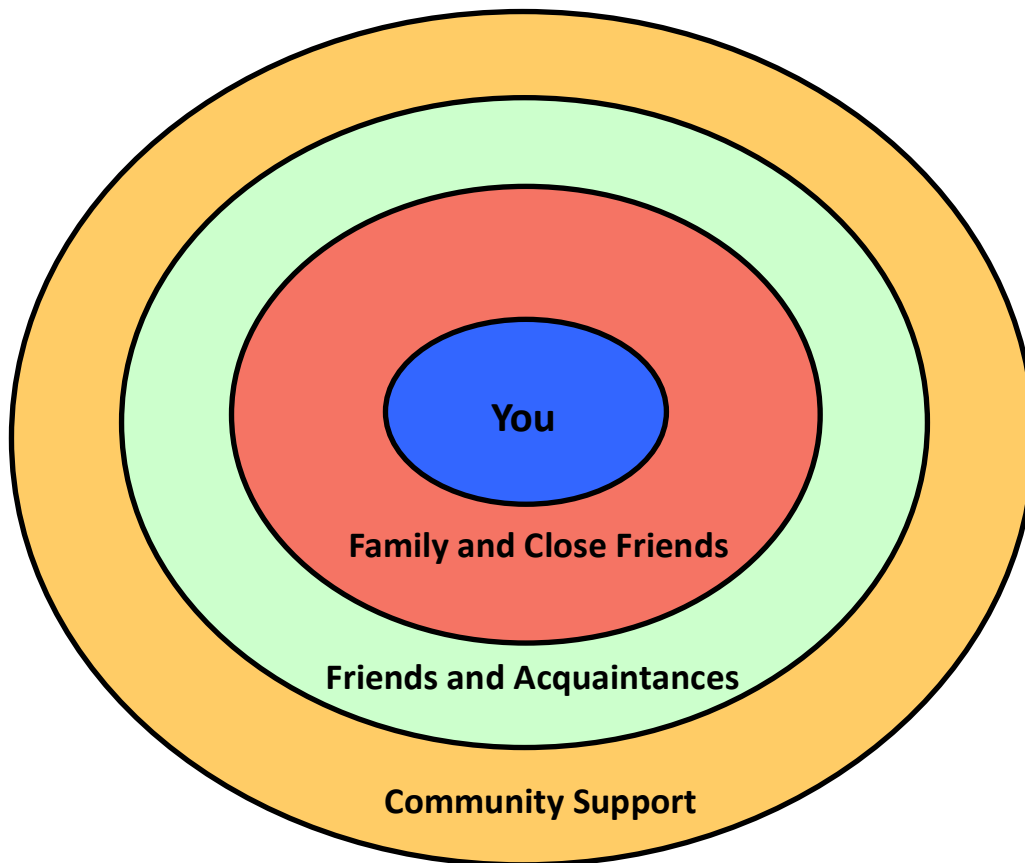
*Social support consists of any communication that allows an individual to feel more positive and in control over a situation.*

**Types of Social Support**

Empathy Encouragement	Sense of Belonging	Emotional Support	Tangible Assistance	Advice Information
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**Asking for and Receiving Social Support in Managing Your Diabetes**

1. In the appropriate circle, write down the names of people and organizations with whom you have a positive relationship.
2. Share a few examples of how you are currently receiving support for your diabetes.
3. What additional support can you ask for and from whom?
4. Are there people not on the list that you might ask to support you? In what way would you like for them to support you?



### The Importance of Carbohydrates

In class two, you learned how to check your blood sugar. A very important component for managing blood sugar is the awareness of what foods contain carbohydrates. Carbohydrates are an important source of fuel (energy) for your body.

Carbohydrates are found in a variety of foods. Foods that contain carbohydrates raise blood sugar. Our body breaks down carbohydrates into glucose (sugar) for energy. By being aware of the foods you eat that contain carbohydrates, you can keep your blood sugar in a healthy range, while also having enough energy to enjoy your daily activities.



### INDIVIDUAL ACTIVITY

**Circle the foods you think contain carbohydrates.**

Apple	Asparagus	Bagel	Bread	Broccoli
Carrots	Cereal	Cheese	Baked Chicken	Cookies
Corn	Fried Fish	Green Beans	Hamburger	Butter
Milk	Peanut Butter	Pork Chop	Baked Potato	Corn Bread
Green Peas	Rice	Boiled Shrimp	Sausage	Spaghetti
Steak	Tomato	Turkey	Watermelon	Spinach
Yogurt	Collard Greens	Black-Eyed Peas	Baked Beans	Grape Jelly
Pizza	Avocado	Macaroni	Chicken Nuggets	Cola



**GROUP DISCUSSION**

The foods that contain carbohydrates are highlighted below in **red**.

Apple	Asparagus	Bagel	Bread	Broccoli
Carrots	Cereal	Cheese	Baked Chicken	Cookies
Corn	Fried Fish	Green Beans	Hamburger	Butter
Milk	Peanut Butter	Pork Chop	Baked Potato	Corn Bread
Green Peas	Rice	Boiled Shrimp	Sausage	Spaghetti
Steak	Tomato	Turkey	Watermelon	Spinach
Yogurt	Collard Greens	Black-Eyed Peas	Baked Beans	Grape Jelly
Pizza	Avocado	Macaroni	Chicken Nuggets	Cola

**When looking at the list of foods that contain carbohydrates, what do you notice?**

*(think of at least 1 thing, write it down)*

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You might have noticed that foods that contain carbohydrates tend to be breads, cereals, pastas, beans/legumes, desserts, fruits, and dairy products that you can drink (e.g., milk) or eat with a spoon (e.g., yogurt, ice cream). These foods are higher in carbohydrates and eating them increases your blood sugar.

### Carbohydrate-Free Foods

While foods with a lot of carbohydrates or added sugars lead to increased blood sugar, other foods are beneficial to your diabetes management because they have fewer carbohydrates and help balance your blood sugar. Eating larger quantities of these foods, especially vegetables, can help you feel more satisfied.

**For example, non-starchy vegetables and salads contain fiber and balance your blood sugar. The foods below are so low in carbohydrates that they are considered carbohydrate-free.**



#### Vegetables

- Asparagus
- Green Beans
- Broccoli
- Carrots
- Cauliflower
- Spinach
- Tomato
- Zucchini

#### Others

- Cheese
- Chicken
- Water
- Eggs
- Fish
- Margarine
- Steak
- Turkey



### Quick Summary

#### **Foods That Have No Carbohydrates**

- Proteins

#### **Foods That Contain Carbohydrates**

- Grains
- Sweets/Desserts
- Beans/Legumes
- Fruits

#### **Tricky Foods**

- Dairy
  - If you can pour it (milk) or eat it with a spoon (yogurt), it has carbohydrates
  - All other dairy: No carbohydrates
- Veggies
  - If they are starchy vegetables (potatoes, peas, corn), they have carbohydrates
  - All other vegetables: No carbohydrates

**See handout: What Can I Eat?**

**See handout: Carbohydrate and Blood Sugar Control**

# WHAT CAN I EAT?

## THINGS TO REMEMBER

A good meal plan includes a balance of carbohydrate (carbs), protein, and good fats. Carbs are the body's main source of energy. About half of the calories you eat each day will come from carbs.

**Know Your Serving Sizes**  
Measure Your Food



TEASPOON    1/2 CUP    PALM

Blood sugar goes up when you eat. Your blood sugar will be easier to control if you eat a balance of foods from the different food groups in the right amounts (portions). You will get the sugar from food your body needs for energy without having high blood sugar problems.

**Always Check Food Labels When You Shop**

Nutrition Facts	
Serving Size: 1/2 cup (40g)	
Servings Per Container: 13	
Amount Per Serving	
Calories 150	Calories from Fat 7
% Daily Value*	
Total Fat 3g	4%
Saturated Fat 0.5g	2%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 140mg	6%
Total Carbohydrate 27g	9%
Dietary Fiber 4g	15%
Sugars 1g	
Protein 5g	
Vitamin A	4%

## EXAMPLES OF FOOD GROUP CHOICES

### FOODS WITH CARBS

#### Grains, Beans, Starchy Vegetables

Serving Size: 1/2 cup  
15 Carb grams  
80 Calories



Pasta, rice, corn, peas, potato, hot and cold cereal, 1 slice of bread

#### Fruit

Serving Size:  
1/2 cup juice,  
1 cup cut  
15 Carb grams  
60 Calories



One small apple, orange, banana, or pear,  
1/2 small grapefruit,  
15 grapes

#### Milk

Serving Size:  
1 cup  
12 Carb grams  
80 Calories



Fat-free or 1% milk, yogurt, buttermilk, soy milk

### FOODS WITH LITTLE OR NO CARBS

#### Vegetables (Non-Starchy)

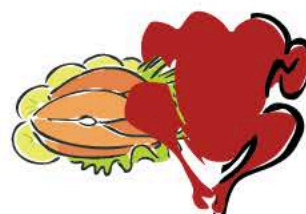
1/2 cup cooked,  
1 cup raw  
25 Calories



Celery, zucchini, carrots, cauliflower, greens, peppers, and tomatoes

#### Meat

Serving Size:  
2-3 oz (palm of hand)  
150 Calories



Lean meat, fish, chicken or eggs, cheese, and peanut butter (2 tablespoons)

#### Milk

Serving Size:  
1 teaspoon  
45 Calories



Cooking oils, mayonnaise, margarine, or low-fat salad dressing

## SAMPLE MEAL PLAN

### BREAKFAST

1/2 banana  
1 slice of whole-wheat toast  
1 tsp margarine  
1/2 cup hot cereal  
1 cup fat-free or 1% milk  
coffee or tea

### LUNCH

1/2 cup tuna in water  
1 tsp mayonnaise  
1 slice whole-wheat bread  
1 tsp margarine  
1 small tomato, sliced  
1 cup melon  
1 cup plain or light yogurt

### DINNER

3 ounces chicken (1/2 small breast)  
2/3 cup brown rice  
1 cup broccoli  
1 tsp cooking oil  
Mixed green salad with  
2 tbsp low-calorie dressing  
1 1/2 cup strawberries

### SNACKS

(IF RECOMMENDED)

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There are many healthy foods you can eat. Your doctor, diabetes educator or dietitian will help you learn how to eat the right foods, in the right amounts, at the right times, to control your blood sugar.

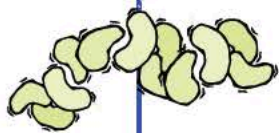
# CARBOHYDRATE AND BLOOD SUGAR CONTROL

Foods with carbohydrate or “carbs” give your body the energy it needs to keep you healthy. Some carbs raise your blood sugar quickly. Other carbs raise your blood sugar more slowly.

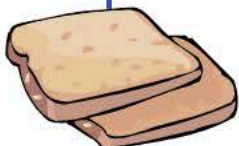
Carbs that raise your blood sugar slowly are the best kind to eat. Eating too many carbs or too many carbs that raise blood sugar quickly can make it harder for you to control your blood sugar.

Below is a list of some of the many foods with carbohydrate that raise blood sugar slowly. Eating these foods *in the right amounts*, at the right time for your meal plan, can help you control your blood sugar and diabetes.

## CARBS THAT RAISE BLOOD SUGAR SLOWLY OR ONLY A LITTLE



**Beans/Legumes:** baked, black, butter, cannellini, garbanzo, kidney, lima, mung, soy beans; lentils, peas (dried, split)



**Beverages:** coffee, tea, tomato or 100% vegetable juice (low salt), Slim Fast, all diet beverages



**Bread:** pumpernickel, sourdough (wheat or rye); corn tortillas

**Breakfast cereals:** All-Bran, steel-cut oats, Glucerna (all types)

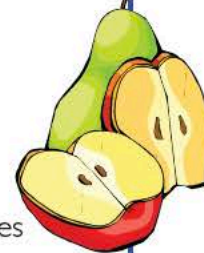


**Cookies/Crackers:** 1 small oatmeal cookie (2.5"/0.9 oz.)

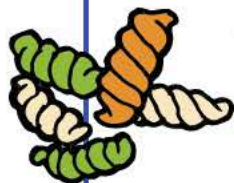
**Dairy:** milk (all types), plain and light yogurts



**Fruit:** apples (fresh & dried), dates, fruit cocktail, grapes, grapefruit, kiwis, mangos, nectarines, oranges, peaches or pears (fresh, dried, or canned in natural juice), plums, prunes, strawberries



**Grains:** barley, buckwheat, bulgur, quinoa, rye, semolina, wheat berries



**Pasta/Noodles:** all forms of pasta made from semolina or durum wheat

**Rice:** Brown rice



**Snack foods:** ice cream (all types), nuts (all types), M&M peanuts, Extend bars, NutriSystem bars, SmartZone bars, Snickers bars, and Glucerna bars (all types of all bars)



**Vegetables:** all non-starchy vegetables except beets, kohlrabi, and rutabega. Also limit or avoid eating white potatoes.



Talk to your doctor, a diabetes educator, or a registered dietitian to learn more about what foods with carbohydrate you can eat to make it easier to control your blood sugar and diabetes.



### Measuring Up: What Is A Carbohydrate Serving?

One carbohydrate serving is equivalent to 15 grams of carbohydrates, although the serving size is different for each type of food.



**Aim for 3-5 carbohydrate servings at each meal (3-4 for women; 4-5 for men) and 1-2 carbohydrate servings per snack.**

**NOTE:** This is a very general guide and each person has their own individual needs.

**The main thing to remember is that the following foods contain carbohydrate:**

Grains, sweets/desserts, beans/legumes, fruits, dairy that you can drink or eat with a spoon, and starchy vegetables.

The table below gives some examples of carbohydrate servings. Each of the foods in the table counts as one carbohydrate serving.

Whole Grains, Beans, and Starchy Veggies		Dairy	Fruits
1 slice bread	½ cup mashed potatoes	1 cup milk	1 cup melon
1 six-inch tortilla	½ cup corn	1 cup yogurt	1 cup berries
4-6 crackers	1 small baked potato	½ cup ice cream	½ banana
¾ cup cereal	½ cup peas	½ cup frozen yogurt	1 small apple
½ bagel	½ cup yams		½ cup canned fruit
⅓ cup pasta or rice	½ cup beans		¼ cup dried fruit

Nutrition Facts			
Serving Size 1/2 cup (110g)			
Servings Per Container 12			
Amount Per Serving			
Calories	120	Calories from Fat	25
% Daily Value*			
<b>Total Fat</b>	3g		<b>5%</b>
Saturated Fat	0g		<b>0%</b>
Trans Fat	0g		
<b>Cholesterol</b>	0mg		<b>0%</b>
<b>Sodium</b>	65mg		<b>3%</b>
<b>Total Carbohydrate</b>	19g		<b>6%</b>
Dietary Fiber	5g		<b>20%</b>
Sugars	2g		
<b>Protein</b>	4g		
Vitamin A	8%	Vitamin C	30%
Calcium	0%	Iron	2%
*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
Saturated 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
Calories per gram:			
Fat 9 • Carbohydrate 4 • Protein 4			

### Counting Carb Servings for Packaged Foods is Easy!

All you have to do is look at the **nutrition facts label!**

You can calculate carb servings by dividing the **Total Carbohydrates** by 15.

For example:

(30 grams = 2 carb. servings)

**You can also use this chart:**

Grams of Carbohydrates	Servings of Carbohydrates
0-5 g	Do not count
6-10 g	½
11-20 g	1
21-25 g	1 ½
26-35 g	2
36-40 g	2 ½
41-50 g	3
51-55 g	3 ½
56-65 g	4

#### EXAMPLE: USING NUTRITION FACTS LABEL FOR CORN

The serving size is for ½ cup of corn

**19 (total carbs) / 15 (1 carb serving) = ~ 1 carb serving**

**That means that ½ cup of corn = 1 carb. Serving**

*See handout: Nutrition Facts Label*

*See handout: Good Fats Bad Fats*

*See handout: Hidden Fats and Diabetes*

*See handout: Eat This, Not That*

# NUTRITION FACTS LABEL

Check the serving size.

## Nutrition Facts

Servings Per Container: 8  
Serving Size: 2/3 cup (55g)

Amount Per Serving

**Calories**

**230**

% Daily Value\*

Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Sugars 12g	
Includes 10g Added Sugar	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%

Low fat is good.  
(3g or less)

Eat less of these.

High fiber is good.  
(3g or more)

Check total carbohydrate.

(Sugars are part of total carbohydrate. Don't count twice.)

Avoid added sugars.

\* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Illustration only.

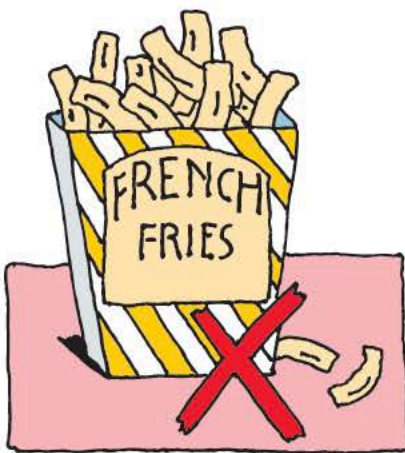
# GOOD FATS

# BAD FATS

## Avoid...

### Trans Fat

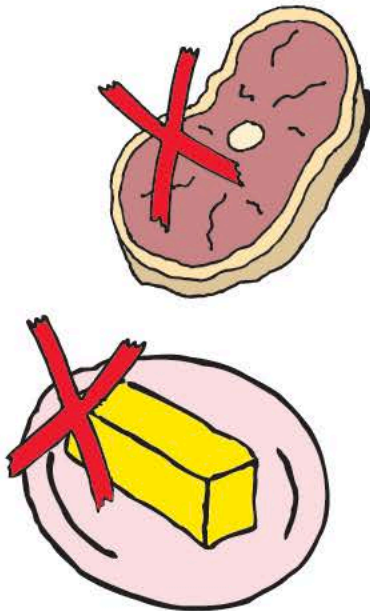
French Fries  
Fresh Donuts  
Vegetable shortening  
Margarine  
Deep-fried foods  
Many fresh baked foods  
(pies, cookies)  
Some packaged snacks  
and candy



## Eat less...

### Saturated Fat

Butter  
Whole Milk  
Cream  
Red Meat  
Dessert (cake, ice cream)  
Animal skin (chicken, turkey)



## Eat...

### GOOD Fats

Oily fish (salmon, trout)  
Olive oil  
Nuts  
Canola oil  
Avocado  
Soybean or Corn Oil



Always read the Nutrition Facts label on foods when you shop.  
Your goal is not a fat-free diet, but a diet low in bad fats.

Eating healthy foods, every day, is one of the best ways to control diabetes!

# HIDDEN FATS AND DIABETES

Some fats are good for you. Some are not. All fats have a lot of calories. Eating more calories than you need causes weight gain.

It is harder to control your blood sugar if you have diabetes and are overweight. Foods high in saturated fats and trans fat also increase your risk for heart disease.


High-fat foods to avoid or limit eating include:







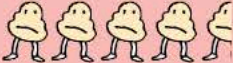





- fried foods and fast-foods
- fresh baked foods (donuts, cookies)
- food from animals (hot dogs, steak)

Look for food labels low in fat (all kinds of fat) when you shop.

Good low-fat food choices include whole grains, vegetables, and fruit. These foods are also a good source of healthy calories for the whole family.

## Commonly eaten foods high in fat include:

 = 2 grams of fat

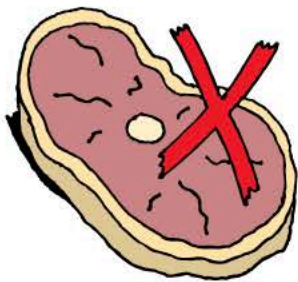
<b>Bologna, 2 ounces (2 slices)</b> 16 gm fat and 178 calories	
<b>Fried chicken wings, 2</b> 14 gm fat and 206 calories	
<b>Dry roasted peanuts, 1 ounce</b> 14 gm fat and 166 calories	
<b>Pepperoni pizza, 1/4 of 12" pie</b> 14 gm fat and 362 calories	
<b>Beef hot dog, 1</b> 13 gm fat and 143 calories	
<b>Potato chips, 1 ounce</b> 10 gm fat and 152 calories	
<b>Cheddar cheese, 1 ounce</b> 9 gm fat and 114 calories	
<b>Bacon, 3 slices</b> 9 gm fat and 109 calories	
<b>Whole milk, 8 ounces</b> 8 gm fat and 150 calories	
<b>Jelly donut, 1</b> 8 gm fat and 210 calories	
<b>French fries, 20</b> 8 gm fat and 200 calories	
<b>Chocolate ice cream, 1/2 cup</b> 7 gm fat and 143 calories	

\* All fat grams (gm) are rounded to the nearest whole number.  
Source: Pennington, Jean A. Bowes & Church Food Values of Portions Commonly Used. Lippincott Williams & Wilkins. © 1998.

# EAT THIS, NOT THAT

Small changes in what you eat can help you control your blood sugar, lose weight, and feel better.

Below is a list of foods many of us eat. The “Eat this...” foods have less sugar, salt, bad fats, or cholesterol. Choosing more “Eat this...” foods when you shop and when you eat can help you control your diabetes.



## Instead of this

## Eat this

- |   |   |  |
|---|---|--|
| Eggs  | → | Egg whites   |
| White bread                                       | → | Wheat, whole-grain or multigrain bread   |
| Whole milk, 2% milk                               | → | Fat-free milk, 1% milk   |
| Butter, margarine, lard                           | → | Vegetable, canola, or olive oil; spray oils  |
| Cheese  | → | Low-fat or skim cheese   |
| Flour (or fried) tortillas                        | → | Corn or whole-wheat tortillas  |
| Refried beans                                     | → | Whole beans, natural beans   |
| Canned fruit in heavy/light syrup                 | → | Fresh, frozen, or canned fruit in its own juice  |
| Canned vegetables                                 | → | Fresh or frozen vegetables with no sauce   |
| Cookies, cake, chips, ice cream                   | → | Fresh fruit, graham or animal crackers, angel food or sponge cake with fruit, low-fat yogurt |
| Fast food (hamburgers, fries)                     | → | Salads at fast-food restaurants are often healthy, good-tasting choices                      |
| Soda and other drinks with sugar                  | → | Water, diet soda, seltzer  |
| Processed meats (hot dogs, Spam, bologna, salami) | → | Low-salt turkey, grilled chicken, low-fat (lean) meat, homemade tuna salad                   |

Read food labels when you shop. Look for foods low in sugar, salt, saturated fat (the bad fat), and cholesterol. And, always remember to watch your portion sizes when you eat.



Eating is a habit, and changing habits takes time. Start by changing one or two foods. Then change another food every week or so. Eating new foods and trying new ways of cooking can be fun. Enjoy!

**Eat fresh foods rather than pre-packaged foods as often as possible.** We realize that in a fast-paced culture such as the one we live in pre-packaged foods can often be both a healthy and convenient choice. However, as much as possible, choose fresh foods!

**Carbohydrate servings cannot be saved up.** It is very important that you do not skip meals! To successfully manage your diabetes, eat carbohydrates throughout day to provide energy for your body. If you skip breakfast, having more servings of carbohydrates for lunch will cause your blood sugar to be too high and therefore is not good for your overall diabetes care.

### A Balanced Meal to Successfully Manage My Diabetes

Next class we'll talk more about creating a balanced plate of food at each meal. For now, think about eating more veggies each day, especially carb-free veggies that you like, and include a lean protein, whole grain, and fruit on your plate – like the picture below.

Portion size matters.



### Portion Size Matters

The portion sizes of foods we typically get in restaurants have doubled or tripled over the past 20 to 30 years. This increase in portion size is an effort to compete for our business and get us to eat at certain restaurants. It's ok to ask for a "to go" box and save some of the food for later or share a plate with a loved one.

### Things to Commit to Doing Until We Meet Again

1. Practice being aware of foods that contain carbohydrates and foods that are carb-free.
2. For one meal, check your blood sugar before and two hours after the meal. If possible, take a picture of the meal with your phone. Record the values. What did you learn?
3. Practice growing your resilience resource of social support – ask for support from loved ones/friends/neighbors/colleagues in managing your diabetes.

### Bring to Our Next Class Session

Your diabetes notebook

