



# **Volunteer Leader Training Guide**

## **How to Plan a Healthy Diet for People with Diabetes**

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### **Target Audience**

- EHC members
- Other adults

### **Objectives**

Participants will be able to:

- Identify carbohydrate-containing foods
- Plan meals using the plate method

### **Main Teaching Points**

#### **Introduction to Diabetes**

Diabetes is a disease that affects 1 in 10 Arkansas adults. Diabetes is a group of diseases that affect how your body uses blood glucose, commonly called blood sugar. Glucose is vital to your health because it's an important source of energy for the cells that make up your muscles and tissues. It's also your brain's main source of fuel.

A person with diabetes can take good care of themselves and their diabetes by learning:

- what to eat
- how much to eat
- when to eat

Making wise food choices can help a person with diabetes:

- feel good every day
- lose weight if they need to
- lower their risk for heart disease, stroke and other problems caused by diabetes

If you have diabetes, no matter what type, it means you have too much glucose in your blood. Too much glucose can lead to serious health problems. Healthful eating helps keep blood glucose in the target range. Physical activity and, if needed, diabetes medicines also help.

Planning meals with the right amount of carbohydrate will help keep glucose on target. The Diabetes Plate Method is a simple way to get the right amount of carbohydrate at each meal.

## Handouts

- Diabetes Meal Planning
- Meal Planning Worksheet
- Apple Spice Bar Cookies Recipe
- Food Group Word Search Puzzles (six different food groups)
- Evaluation

## Advance Preparation

Prior to teaching the lesson, review the main teaching points and study the handouts. Make copies of handouts and evaluation form. Prepare Apple Spice Bar Cookies for tasting (recipe in handouts).

## Suggestions for Teaching

While you are waiting for everyone to arrive, give participants a Food Group Word Search Puzzle to complete. Make sure someone completes at least one of each of the six puzzles. Before starting the lesson, ask a few members to share which food group word search they had and what words they found. Mention that you will talk more about food groups and how they can be combined to make a healthy meal for people with diabetes.

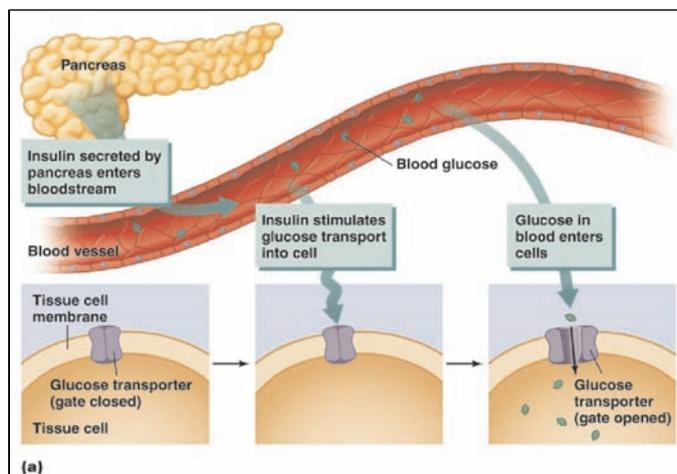
Start the lesson and tell participants that there are **two main types of diabetes**:

Type 1 diabetes is an autoimmune disease in which your body attacks and destroys the insulin-producing cells in the pancreas. This leaves you with little or no insulin. Instead of being transported into your cells, sugar builds up in your bloodstream.

In type 2 diabetes, your cells become resistant to the action of insulin, and your pancreas is unable to make enough insulin to overcome this resistance. Instead of moving into your cells where it's needed for energy, sugar builds up in your bloodstream. Being overweight is strongly linked to the development of type 2 diabetes, but not everyone with type 2 is overweight and not everyone who is overweight develops diabetes.

## Explain the Physiology of Diabetes

Explain that your body breaks down food to nutrients that can be absorbed to produce energy. All carbohydrate foods are broken down to sugar called glucose. Your body needs insulin to transport glucose from the bloodstream into your cells for energy. The purpose of insulin is to allow cells to take up glucose from the bloodstream. If you do not make insulin or your body does not use insulin efficiently, glucose builds up in your blood. As a



result, your cells do not get the energy they need. Further, the extra glucose that remains in the blood causes serious health problems and can lead to early death.

***Talk about carbohydrates and why people with diabetes need to know about them.***

## **What Are Carbohydrates?**

Carbohydrates are nutrients that are common in many foods. Foods from several food groups such as Grains, Vegetables (starchy and non-starchy), Fruits, and Dairy foods contain carbohydrates. Carbohydrates are also found in combination foods such as desserts, casseroles and pizza that contain foods from the grains, vegetables, fruit and dairy groups. Meats, poultry, fish and fats and oils do not contain carbohydrates.

Carbohydrates can be classified as:

**Starches** – These are also known as complex carbohydrates. Examples include vegetables such as corn, potatoes, peas and yams; grains such as wheat, rice and barley; and dried beans such as kidney beans and pinto beans. Starches are broken down into glucose and converted to energy. So, these do affect your blood glucose levels.

**Sugars** – Sugars are naturally present in fruits, vegetables and dairy foods. Sugars are also added to lots of foods to make them taste sweet. Your body doesn't know the difference. Sugars are broken down into glucose and converted to energy. So, these do affect your blood glucose levels.

**Fiber** – Fiber is a carbohydrate that doesn't get fully digested, so it doesn't increase your blood glucose like other carbohydrates. A large amount of fiber in a meal may slow digestion, which can prevent rapid rise in blood glucose after a meal. Good sources of fiber are whole grain products, fruits, vegetables, beans and legumes.

## **How Many Carbohydrates Should You Eat?**

Tell participants that the number of carbohydrates a person should eat depends on his/her age, height, weight and activity level. A minimum of 130 grams a day is required for organs such as your brain and eyes to function optimally. A doctor will tell a person with diabetes how much carbohydrate they should have in a day.

Carbohydrate counting is a meal planning approach where one is allowed a certain amount of carbohydrate choices ("carb") or grams of carbohydrate per meal and snack. A carbohydrate choice or "carb" is equal to 15 grams of carbohydrate. So we need to count in multiples of 15. If you have already visited your doctor or a registered dietitian who has determined a carbohydrate meal plan for you, it is best that you follow their advice. However, general guidelines for most people are:

<b>Carb choices per meal</b>	Carb choices	Carbohydrate grams
Inactive women	2 - 4	30g – 60g
Active women/inactive men	3 - 5	45g – 75g
Active men	4 - 6	60g – 90g
<b>Carb choices per snack</b>		
Between meal	1 – 2	15g – 30g

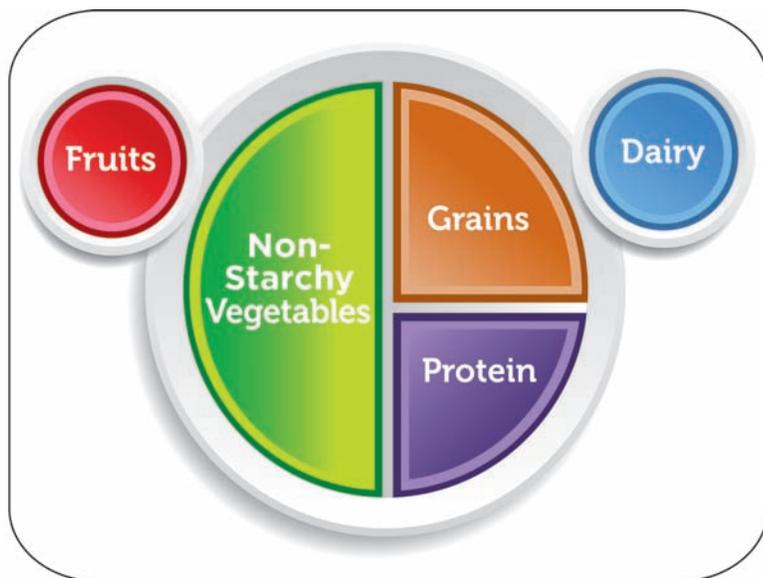
Talk about carbohydrate choices from each food group, which are also called exchanges. They are based on their carbohydrate content so serving sizes might vary a bit, but serving sizes provide approximately 15 grams of carbohydrate. These 15g carbohydrate servings are generally referred to as a “carb” regardless of which food group they are in.

Refer participants to the **Diabetes Meal Planning** handout for more information on good choices and serving sizes.

Tell participants that they can use the food labels to determine carbohydrate content of packaged foods when planning meals. They should make sure they **look at serving size** and the **total carbohydrate** in a serving to help them count carbohydrates.

Tell participants there is an easier way to plan balanced meals that have the right amount of carbohydrate: the Diabetes Plate method. Have participants look at the picture of the Diabetes Plate in their **Diabetes Meal Planning** handout.

### The Diabetes Plate



The Diabetes Plate looks like MyPlate, except the non-starchy vegetable section covers half the plate and the fruit section is separate. If you use the Diabetes Plate to plan your three daily meals and fill in with a couple of between meal snacks with one or two carbs per snack, you should get the right amount of carbs.

Tell participants that for healthy meals with the right amount of carbohydrates they should have a 9-inch plate, a small dish that holds ½ cup, a small bowl that holds 1 cup and an 8-ounce glass or cup.

Ask participants to look at their **Diabetes Meal Planning** handout and the **Meal Planning Worksheet**. Look at the **Meal Planning Worksheet** and talk about how the Diabetes Plate is divided into five food groups.

Divide participants into two groups. Tell them that one group is going to plan a lunch and one will plan a dinner. Have participants in each group plan a meal using the **Meal Planning Worksheet** and ideas from the **Diabetes Meal Planning** handout. They should choose something from each of the food groups and write it on their corresponding section of the worksheet.

Look at the handout together and point out that the vegetables listed are non-starchy vegetables. Explain that non-starchy vegetables should cover half their plate. If they choose a starchy vegetable, it will count in the grain/starch group instead of the vegetable group. They can choose a variety of non-starchy vegetables – the more colorful, the better. One-half cup of

non-starchy vegetable has about 5 grams of carbohydrate, so it takes 1½ cups to make a “carb” choice, and that is why you can cover half of your 9-inch plate with non-starchy vegetables.

Next, select a grain or starch. Starchy vegetables like beans, corn and potatoes go in this group along with grain foods. A serving is about ½ cup of starchy vegetable or cooked cereal, ⅓ cup rice or pasta, a small biscuit or tortilla, a slice of bread or small roll.

Now, select a 3-ounce portion of meat, poultry or fish or an egg. All sections of your plate should now have a food listed.

Add a ½-cup serving of fruit and an 8-ounce serving of lowfat or fat-free milk or 6 ounces of yogurt. Your meal should be balanced and contain about four “carb” choices or approximately 60 grams of carbohydrate if you chose appropriate serving sizes.

Ask participants to share the meals they planned. Are there foods from each food group? How many “carb” choices do they have? (They should have four “carb” choices: non-starchy vegetables, grain, fruit and dairy.)

## **Summary**

Tell participants that no matter what type of diabetes a person might have, eating a healthy diet, maintaining a healthy weight and monitoring blood sugar levels are keys to managing diabetes. Contrary to popular perception, there’s no one diabetes diet. The Diabetes Plate is an easy tool to help plan balanced meals that have the right amount of carbohydrates. It is well-balanced and nutritious. The only extra foods they may want are sugar-free drinks, small amounts of salad dressing and margarine.

We should all center our diets on more fruits, non-starchy vegetables and whole grains – foods that are high in nutrition and fiber and low in fat and calories. Choose small portions of lean or low-fat meats, eat more fish and eat less refined carbohydrates and sweets. Sugary foods are OK once in a while, as long as they’re included in their meal plan.

Distribute the evaluation form and ask participants to complete it. Tell them to think back before the lesson and respond to the items in the Before Meeting box. Then, respond to the items in the After Meeting box. Finally, complete the rest of the items on the evaluation form.

Serve Apple Spice Bar Cookie to each participant. Point out that one 1¾-inch cookie has 15 grams of carbohydrate and equals one “carb” choice.