

Meeting 3



Food and Glucose Balance

Welcome!



We are so happy to see you again! Today's topic is Food and Glucose Balance.

Eating healthy is one of the most important things you can do to get and keep glucose in balance and avoid complications.

To keep you on the path to glucose balance, we will learn about:

1. How food affects blood glucose levels,
2. The best foods to eat for glucose balance, and
3. How reading food labels can help with glucose balance.

Meeting 1: Glucose Balance Makes a Difference!



First let's take a few minutes to review our last two meetings. In meeting 1, **Glucose Balance Makes a Difference**, we said to get and keep your glucose in balance, it is important to:

- ✓ Know your glucose numbers,
- ✓ Know what makes them go up and down,
- ✓ Self-test often, with a goal of 70 - 130 before eating, and lower than 180 two hours after eating, and
- ✓ Get A1c lower than 7.

Meeting 3



Food and Glucose Balance

Meeting 2: Medicine and Glucose Balance



In meeting 2, **Medicine and Glucose Balance**, we said:

- ✓ Diabetes changes over time,
- ✓ Diabetes medicine is an important part of a diabetes treatment plan,
- ✓ Diabetes medicine works together with healthy eating and physical activity to lower blood sugar,
- ✓ Diabetes medicine helps the body use the insulin it makes OR helps the body make enough insulin,
- ✓ Working with your provider and other partners in care is important, and
- ✓ ASK questions if you need to know something about your diabetes care!

Before we get started on today's meeting, let's see what Kaipo and Uncle Tommy are up to.

This afternoon, the whole family is getting together to celebrate a college graduation! Kaipo's cousin, Don, is graduating with his bachelor's degree from the University of Hawaii and his parent's have a big party planned.

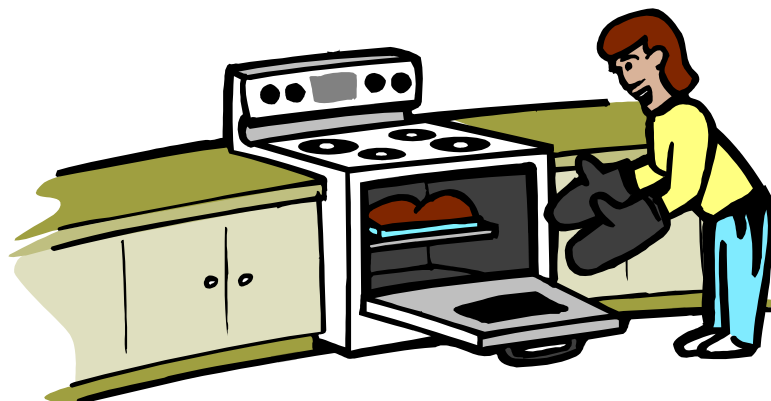
Before the party, everyone is invited to the graduation ceremony. It starts at 10:00 a.m. so everyone is up early and getting ready. Kaipo was so excited he woke up at 6:00, got dressed, and asked his father if he could go over the Uncle Tommy's house.

"Sure," said his father, "but don't rush them, we don't want to get them stressed out. It's going to be a long day." "Okay," replied Kaipo as he ran out of the front door.



Kaipo arrived at his Uncle's front door and knocked. Auntie Nani came to the door and said, "Kaipo, you're up so early!" "I know, but I couldn't sleep and I was really excited so I decided to come over here and help you and Uncle get ready," said Kaipo.

"Wow! That will be big help. Uncle and I have a lot of food to bring to the party. Let's go into the kitchen," Auntie said.



Uncle Tommy was sitting at the kitchen table eating his breakfast.

“What are you eating, Uncle?”

asked Kaipō. “Well, I have 2 scrambled eggs, whole wheat toast, and some strawberries and blueberries,” said Uncle.

“No spam or bacon?” asked

Kaipō. “No, not today. I

would like to eat spam or

bacon everyday, but I need

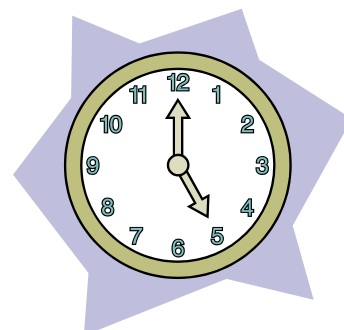
to cut back on foods that have a lot of fat in them. I also have to watch the amount of sweet foods I eat if I want to stay healthy with my diabetes.



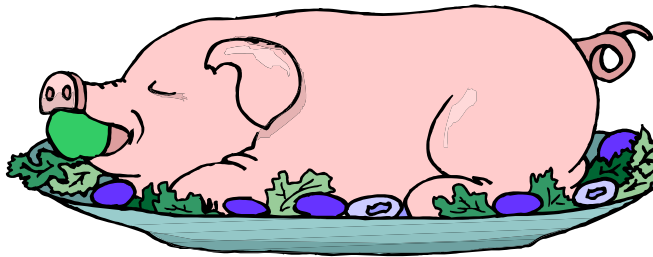
Kaipō looked puzzled. Kaipō said, “I didn’t know you had to be on a diet for your diabetes?”

Uncle replied, “Actually, a diabetes diet is really a healthy way of eating for everyone. Eating healthy can prevent diabetes, and if I’d known that before, I would have tried harder to eat healthy when I was younger. But now I need to eat healthy to keep my weight down and blood sugar in balance.”

“I’ve also learned that it is important to not eat too much and try to eat at the same time every day,” Uncle explained.



“Maybe you can help me with this today, especially at the graduation party. I know there will be a lot of good food there, and I’ll need help to keep from eating too much.” Okay, I’ll help you, and you can help me. I want to stay healthy too,” said Kaipo.



“Okay, boys,” said Auntie Nani, “time to load up the truck with the food. We don’t want to be late!”



Meeting 3



Food and Glucose Balance



Uncle has learned about the importance of healthy eating for glucose balance. You will be doing the same today.

When you were diagnosed with diabetes, your doctor probably said that you should pay attention to nutrition and diet as part of your treatment program. Nutrition and diet are important because too many calories and fat can make it harder to get glucose in balance.

Having diabetes doesn't mean that you have to start eating special foods or follow a complicated diet plan.

For most people, a diabetes diet simply means:

- **Eating a variety of foods**
- **In moderate amounts**
- **At regular mealtimes.**

This means choosing a diet that includes a lot of vegetables, fruits, and whole grains. As Uncle Tommy told Kaipo, this is the best eating plan for everyone, not just people with diabetes!



Meeting 3



Food and Glucose Balance



In the first meeting about blood glucose, we learned that all of the food we eat turns into sugar, or glucose. Our bodies need glucose for energy. Glucose is also important for our brains. With glucose in balance, our brains work better.

You can get and stay in balance by learning:

- ❖ What to eat,
- ❖ How much to eat, and
- ❖ When to eat.



Healthy eating, along with diabetes medicine and exercise, helps keep blood glucose in your target range.

Different foods have different effects on blood sugar because the body breaks down different types of foods at different rates. Carbohydrates can take from 5 minutes to 3 hours to digest. Protein takes 3 to 6 hours, and fat can take 8 or more hours. You can tell how different foods affect your blood sugar by self-testing with a glucose monitor.



Let's talk about food groups that are important to think about when planning meals for glucose balance.

Meeting 3



Food and Glucose Balance

Eat More Fiber!



Starches are breads, grains, cereal, pasta, and starchy vegetables like corn and potatoes. They provide carbohydrates, vitamins, minerals, and fiber.

Eating starches is healthy for everyone, including people with diabetes. All starches, or carbohydrates, will make glucose go up. But there are certain starches that are better for glucose balance.

Whole grain starches are healthier because they have more vitamins, minerals, and fiber. Whole grain foods are also healthier for glucose balance because they don't make blood sugar go as high as low fiber foods.

White rice, or fried white rice, can cause blood sugar to go up very quickly. It is best to eat less white rice for glucose balance.



Examples of whole grain starches high in fiber are:

- Whole wheat bread
- Beans (kidney beans, black beans, white beans, etc)
- Brown rice
- Yams
- Whole grain cereal



Vegetables and fruits are also great ways to get more fiber! Try to eat at least 5 servings of fruits and vegetables each day.

Knowing what is meant by a serving size is key to knowing how much you eat. On the next page are examples of serving sizes.

Measuring Your Food



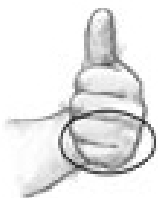
To make sure your food servings are the right size, you can use:

- measuring cups
- measuring spoons
- a food scale



Or you can use the guide below. Also, the Nutrition Facts label on food packages tells you how much of that food is in one serving.

Guide to Sensible Serving Sizes

This much	is the same as
	3 ounces 1 serving of meat, chicken, turkey, or fish
	1 cup 1 serving of <ul style="list-style-type: none"> • cooked vegetables • salads • casseroles or stews, such as chili with beans • milk
	½ cup 1 serving of <ul style="list-style-type: none"> • fruit or fruit juice • starchy vegetables, such as potatoes or corn • pinto beans and other dried beans • rice or noodles • cereal

**1 ounce**

1 serving of

- snack food
- cheese (1 slice)

**1 tablespoon**

1 serving of

- salad dressing
- cream cheese

**1 teaspoon**

1 serving of

- margarine or butter
- oil
- mayonnaise

Meeting 3



Food and Glucose Balance

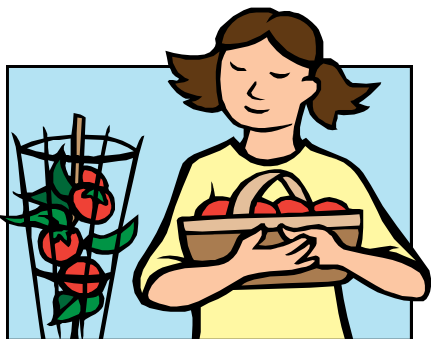
Eat Less Fat!



Because people with diabetes are at higher risk of heart problems, it is often recommended that they limit the amount of fat they eat. Because high protein diets, such as the Atkins diet, are high in fat, they are not usually recommended for people with diabetes.

Our bodies need some fat, but the American diet is often very high in fat. Some ways to eat less fat are:

- Choose smaller portions of lean meats, chicken, and fish
- Trim extra fat off of meat
- Cook meat in low fat ways, such as broiling, grilling, roasting, and steaming
- Limit the amounts of fried foods you eat
- Choose low fat or fat free cheese, salad dressings, and margarine
- Drink low fat or fat free milk. It has all the same nutrients as whole milk, only the fat has been taken out
- Eat more vegetables, grains, beans and starchy vegetables

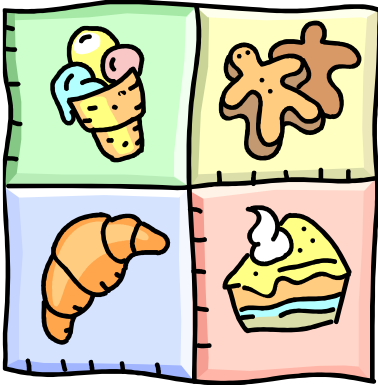


Meeting 3



Food and Glucose Balance

Eat Less Sugar!



Sugars and sweets, like cake and cookies, have a lot of calories and they do not have many nutrients in them. But there's good news too! People with diabetes, like everyone else, can eat sugars and sweets, but it is best if they are eaten in small amounts.

Eating sugar and sweets will make your blood sugar go up, especially if the sugar is in a drink. The amount of medication in your body will also affect how fast your blood sugar will go up when you eat high carbohydrate foods and sweets. It's best to check your blood sugar when you eat sugars and sweets to see how your body reacts.

When you look at a food label, pay attention to the **Total Carbohydrates** because the sugars are included in this number. We will look at some food labels on the next page.

The important things to remember are:

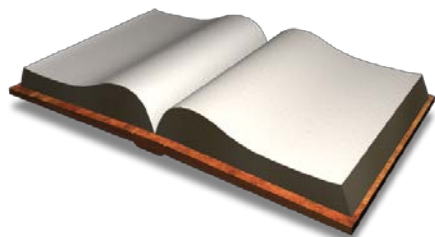
1. Sugar and sweet foods are okay to eat once in a while and in small amounts.
2. Choose low sugar or sugar free foods and drinks.
3. Sugar is counted as a carbohydrate on food labels.

Now let's see how food labels can help us choose the best foods for glucose balance.

Meeting 3



Food and Glucose Balance



You know how books have a table of contents that explains what's inside? Or maybe you have a cell phone that came with a diagram that identified each part. Nutrition labels are sort of like that. They tell you what's inside the food you're eating and list its parts.

The Nutrition Facts food label gives you information about which **nutrients** are in the food. The Nutrition Facts food label is printed somewhere on the outside of packaged food, and you usually don't have to look hard to find it.



Most nutrients are measured in **grams**, also written as **g**. Some nutrients are measured in **milligrams**, or **mg**. Milligrams are very tiny — there are 1,000 milligrams in 1 gram.

Other information on the label is given in **percentages**. Food contains fat, protein, carbohydrates, and fiber. Food also contains vitamins, such as A and C, and minerals, such as calcium and iron.

This is a sample label for Macaroni and Cheese

① **Start Here** →

② **Check Calories**

③ **Limit these Nutrients**

④ **Get Enough of these Nutrients**

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

• 5% or less is Low

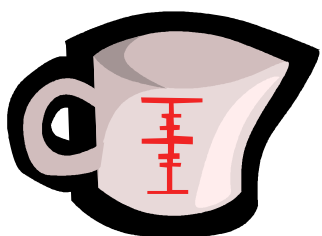
• 20% or more is High

Meeting 3



Food and Glucose Balance

1. Serving Size



The first place to start when you look at the Nutrition Facts label is the serving size and the number of servings in the package.

Serving Size 1 cup (228 g)

Servings Per Container 2

What is the serving size on the macaroni and cheese label?

How many servings are in the box of macaroni and cheese? _____

Pay attention to the serving size on food labels. How many servings of the macaroni and cheese would you eat?



Meeting 3



Food and Glucose Balance

2. Calories



The number of calories you eat will depend on the number of servings you have. The number of calories in a single serving of the food is listed on the left side of the label. Calories can come from fat, protein, or carbohydrate. People pay attention to calories because if you eat more calories than your body uses, you might gain weight.

How many calories are in 1 serving of macaroni and cheese?

How many calories in 2 servings? _____

Here is a general guide to calories:

- 😊 40 calories per serving is low.
- 😐 100 calories per serving is moderate.
- 😞 400 or more calories per serving are high.

Calories from Fat

Another important part of the label is the number of calories that come from fat. People check this because it's good to limit fat intake to about 30% of the calories they eat.

For example, in the macaroni and cheese there are 250 calories in one serving. How many calories from fat are there in ONE serving? Answer: 110 calories.

This means that almost half of the calories (50%) in a single serving come from fat! This is more than 30% of calories from fat that is recommended for a healthy diet.

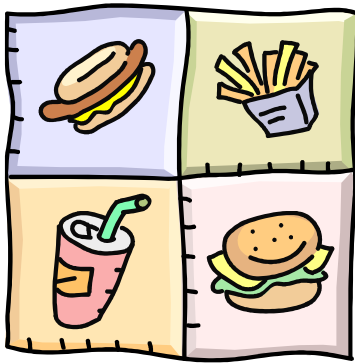
Meeting 3



Food and Glucose Balance

The Nutrients

3. Limit These



The nutrient section shows some key nutrients that impact your health. They are separated into two main groups: nutrients that you should limit, and nutrients that you should get enough of.

The total fat is the number of fat grams contained in one serving of the food. Our bodies need some fat, but you don't want to eat too much. The different kinds of fat, such as saturated, unsaturated, and trans fat, will be listed separately on the label.

It is also best to limit the amount of cholesterol and sodium you eat because these, along with fat, can increase your risk of heart disease, some cancers, and high blood pressure.

4. Get Enough of These



The next nutrients listed on the food label are carbohydrates and protein. Our bodies need carbohydrates for energy. The total for carbohydrates is broken down into grams of dietary fiber and grams of sugar. Try to eat more dietary fiber and less sugar.

Protein is best if it comes from high fiber or low fat foods, like beans, lean meats, and eggs.

Our bodies also need plenty of vitamin A and C, calcium, and iron to prevent heart disease.



Meeting 3

Food and Glucose Balance

Ingredient List



The ingredient list is another important part of the label. Ingredients are listed in order so you get an idea of how much of each ingredient is in the food. When something is listed first, second, or third, you know that this food probably contains a lot of it. The food will contain smaller amounts of the ingredients mentioned at the end of the list.

With that in mind, check ingredient lists to see where sugar appears. Limit foods that mention sugar in the first few ingredients. That means it's a very sugary food. Sugar has different names, so it might also be called high fructose corn syrup, corn syrup, sucrose, or glucose.

You can use the Nutrition Facts label to help limit the nutrients you want to cut back on, and to increase the nutrients you need to eat more of.



A Registered Dietitian can tailor a diet based on your health goals, tastes, and lifestyle. Ask your doctor for a referral to a registered dietitian. Or, to find a dietitian near you, call the American Dietetic Association's National Center for Nutrition and Dietetics toll free at 1-800-877-1600 or see www.eatright.org and click on "Find a Nutrition Professional."

Recommended calories per day for each food group

Put a check mark in the box next to the one that best describes you.	<input type="checkbox"/> Small woman who exercises <input type="checkbox"/> Small or medium woman who wants to lose weight <input type="checkbox"/> Medium-size woman who does not exercise much	<input type="checkbox"/> Large woman who wants to lose weight <input type="checkbox"/> Small man at a healthy weight <input type="checkbox"/> Medium-sized man who does not exercise much <input type="checkbox"/> Medium-sized or large man who wants to lose weight	<input type="checkbox"/> Medium-sized or large man who exercises a lot or has a physically active job <input type="checkbox"/> Large man at a healthy weight <input type="checkbox"/> Medium-sized or large woman who exercises a lot or has a physically active job
	1,200-1,600 calories each day	1,600-2,000 calories each day	2,000-2,400 calories each day
Starches (make these high fiber foods)	6 servings	8 servings	10 servings
Vegetables	3 servings	4 servings	4 servings
Fruits	2 servings	3 servings	4 servings
Milk (make it low or fat free)	2 servings	2 servings	2 servings
Meat or meat substitutes (choose lean, low fat meat)	4-6 ounces	4-6 ounces	5-7 ounces
Fats	Up to 3 servings	Up to 4 servings	Up to 5 servings

Examples of Serving Sizes

- Examples of 1 serving of starch: 1 slice of bread OR 1 small potato OR ½ cup cooked cereal or ¾ cup dry cereal flakes, OR (1) 6 inch tortilla.
- Examples of 1 serving of vegetables: ½ cup cooked carrots OR ½ cup cooked green beans OR 1 cup salad.
- Examples of 1 serving of fruit: 1 small apple OR ½ cup juice OR ½ grapefruit.
- Examples of 1 serving of milk: 1 cup fat-free yogurt or low-fat yogurt OR 1 cup fat-free or low-fat (1%) milk.
- Examples of 1 serving of meat and meat substitutes (protein): 1 egg OR 2 tablespoons of peanut butter. Three ounce serving of lean meat, chicken, or fish is about the size of a deck of cards.
- Examples of 1 serving of sweets: (1) 3 inch cookie OR 1 plain cake donut OR 1 tablespoon maple syrup.
- Examples of 1 serving of fat: 1 strip of bacon OR 1 teaspoon oil.

Meeting 3



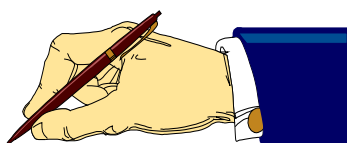
Food and Glucose Balance



Let's Review!



Set a Goal!



Here are some of the important things to remember from today's meeting:

1. Develop a routine. Eat your meals and snacks at about the same time each day.
2. Eat a variety of foods high in fiber and low in fat, calories and sugar, such as whole wheat bread, brown rice, and vegetables
3. Do not skip meals or snacks
4. Try to eat fewer calories if you need to lose weight
5. Avoid foods high in fat or oil, like fried foods, bacon, sausage, mayonnaise, and cheeses
6. Use sugar substitutes like Equal and Splenda
7. Read food labels to find the best foods for glucose balance!

We have covered a lot of information about food and glucose balance. Knowing how foods affect blood sugar will help you reach your goal of glucose balance.

Take a few minutes now to write down one goal that you plan to work on this week to stay in balance with food. Remember all that we talked about today.

Meeting 3

Food and Glucose Balance

We appreciate that you have taken the time to be with us. Before you leave, please take a few minutes to give us your thoughts about today's meeting.

1. As you were going through today's meeting, what information did you find especially helpful to you?
2. What goal did you set for yourself?
3. Are there any other comments about today's meeting that you would like to share with us?

Thank you!

Meeting 3



Food and Glucose Balance

Thank You!

On the next page you will find some forms you can use to help keep you on the path to glucose balance.

Thank you and we will see you next time when we will talk about Planning Meals for Glucose Balance. Be sure to bring your notebook with you.

