

Diabetes Nutrition Guide



What is Diabetes?

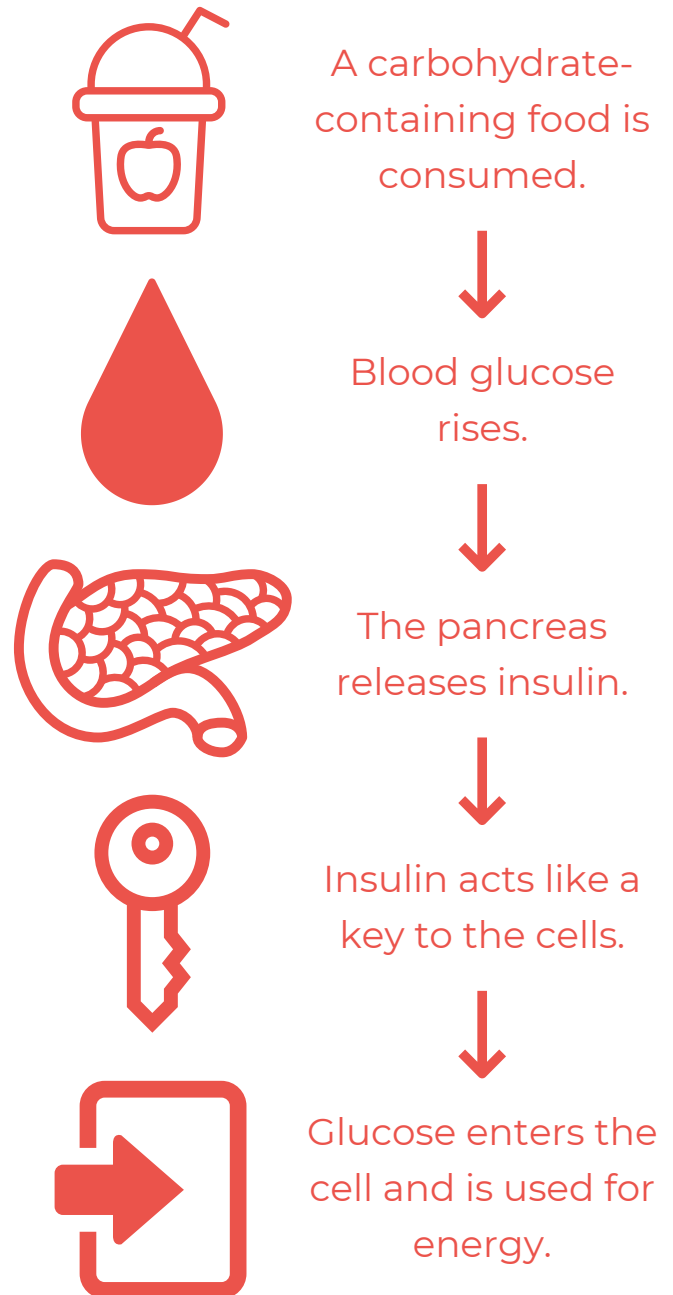
Diabetes is a condition that affects how well your body is able to use glucose.

Glucose is a sugar molecule that comes from food and is the most important source of energy for your cells and brain. Glucose is most commonly found in foods with carbohydrates, including fruits, potatoes, grains, and sugary snacks.

After a meal or snack, our digestive system breaks down large carbohydrates into a smaller sugar called glucose. Glucose travels in your blood and gives energy to your cells. You may have heard your doctor refer to glucose as “blood glucose” or “blood sugar”.

Glucose in the blood causes the release of insulin. The higher the amount of glucose in the blood, the higher the insulin level. Insulin acts like a key to our cells. Insulin “opens the door” to our cells and helps glucose move inside. The glucose inside a cell can be used for energy right away or stored for later.

The amount and type of carbohydrates we eat directly impacts the insulin levels in our body.



What Happens When You Have Diabetes?

With diabetes, the body either cannot make insulin or the insulin doesn't work as it should. In both cases, glucose has a hard time entering the cells to supply energy to the body.

There are three different types of diabetes:

Type 1 Diabetes

In type 1 diabetes, the body does not make enough insulin which causes a build-up of glucose in the blood. This is usually caused by an autoimmune reaction and is typically diagnosed in children, teens, and young adults. People with type 1 diabetes need regular insulin injections to help manage their blood glucose levels. This can be in the form of regular shots or an insulin pump.

Type 2 Diabetes

In type 2 diabetes, the body still makes insulin but does not respond to it properly. This leads to a build-up of glucose in the blood. This condition usually develops later in life. Unlike type 1 diabetes, type 2 diabetes can be treated with diet and lifestyle changes. Type 2 diabetes does not always require medication.

Gestational Diabetes

Gestational diabetes develops during pregnancy. It is typically caused by changes in hormone levels which influence how well the body is able to respond to insulin. Gestational diabetes can be treated with diet and lifestyle changes but may also require medication. Gestational diabetes often goes away after birth, but it can increase your risk of developing type 2 diabetes in the future.

How is Diabetes Diagnosed?

Diabetes is typically diagnosed with a blood test that looks at your current blood glucose and Hemoglobin A1C levels. Hemoglobin A1C is an average of your blood glucose levels in the last 3 months. Both prediabetes and diabetes are typically confirmed with Hemoglobin A1C levels.

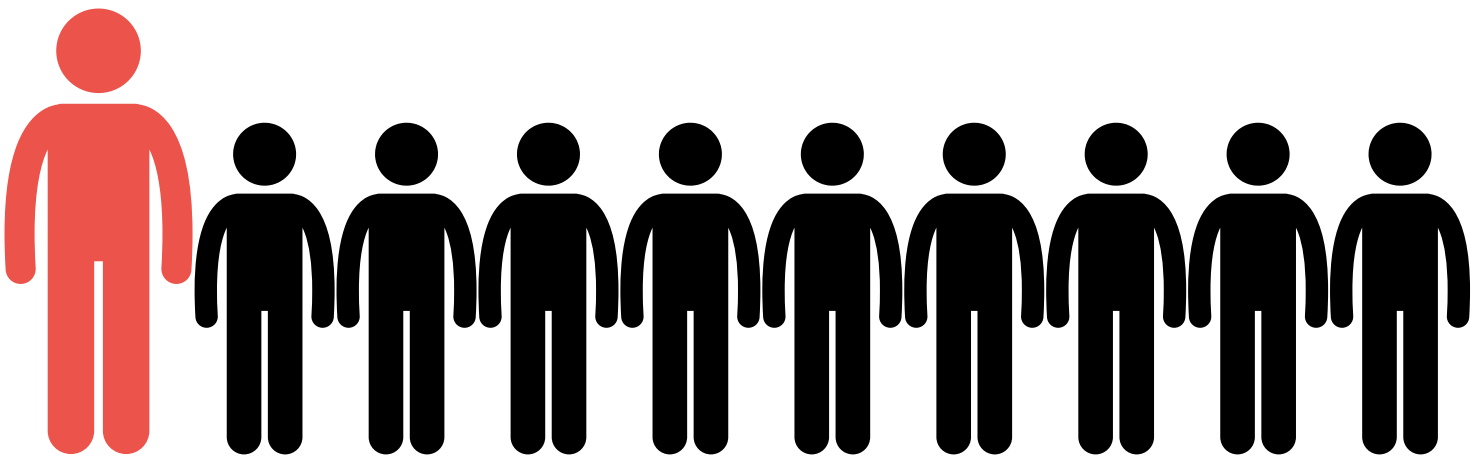
The American Diabetes Association classifies hemoglobin A1C levels as the following:

- **Normal** = Less than 5.7%
- **Prediabetes** = 5.7% to 6.4%
- **Diabetes** = 6.5% or higher

There is no cure for diabetes, but there are many treatment options. Your treatment plan depends on what type of diabetes you have, along with other factors. Untreated diabetes can lead to other health issues, so it is important to get your diabetes under control as soon as possible.

What is Prediabetes?

Prediabetes is a condition in which your blood sugar levels are higher than normal but are not high enough to be defined as diabetes. People diagnosed with prediabetes are often advised to make lifestyle changes to avoid a diabetes diagnosis.



More than 1 in 10 Americans are diagnosed with diabetes.

Diabetes Treatment Overview

There are many different treatment options for diabetes. Review the following options and discuss with your doctor or care team which treatment strategies are right for you.



Medication

There are several different medications your doctor may recommend when you are diagnosed with diabetes. Two common examples are insulin and oral drugs such as Metformin. Insulin is typically given via regular shots or an insulin pump. Insulin pumps deliver insulin through a thin tube under your skin. Oral drugs are taken by mouth and usually require meal planning to help fully control blood glucose levels.



Monitoring Your Blood Sugar

Monitoring your blood sugar levels throughout the day can help you better understand your body and ensure your blood sugars stay at a steady level. You may choose to use either a standard blood glucose meter or a continuous glucose monitor. A standard blood glucose meter uses a drop of blood from your finger to measure your blood glucose. A continuous glucose monitor works through a sensor placed on the skin and checks your blood glucose regularly throughout the day. It may help to manually keep a log of your blood sugar levels.

The American Diabetes Association (ADA) suggests the following targets for blood glucose levels:

Before a meal:
80-130 mg/dL

1-2 hours after a meal:
Less than 180 mg/dL

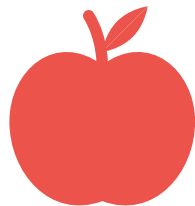
If your blood glucose level is over 300 mg/dL for 2 days in a row, call your doctor.

Treatment Options



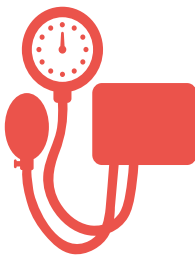
Physical Activity

Regular physical activity can help control blood sugar, maintain weight, and boost energy levels. The American Diabetes Association (ADA) recommends at least 2.5 hours of physical activity per week. Choose an activity that you enjoy and have fun with it! Always remember to warm up and cool down before and after exercise.



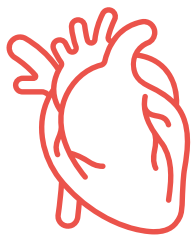
Diet

Foods rich in carbohydrates like pasta, bread, rice, sweets, and fruits can make your blood sugar levels rise. Focus on getting a variety of non-starchy, fiber filled vegetables like broccoli, carrots and bell peppers and lean proteins like beans, chicken and turkey in your diet. Limit processed foods, sugar-sweetened beverages, and foods high in added sugars.



Blood Pressure Control

High blood pressure often goes hand in hand with diabetes. High blood pressure increases the risk for a heart attack or stroke. You can help manage your blood pressure through diet, exercise, and medications. Talk to your doctor to see which treatment plan is right for you.



Cholesterol Control

High cholesterol can cause fat to build up in blood vessels, increasing the risk for a heart attack or stroke. You can work to lower cholesterol levels by limiting your intake of red meat, dairy, alcohol, and processed foods like cookies, crackers, and cakes. Focus on eating lots of fiber filled fruits, vegetables, whole grains, nuts, seeds and beans. Exercising regularly can also help lower cholesterol levels.

Hyperglycemia and Hypoglycemia

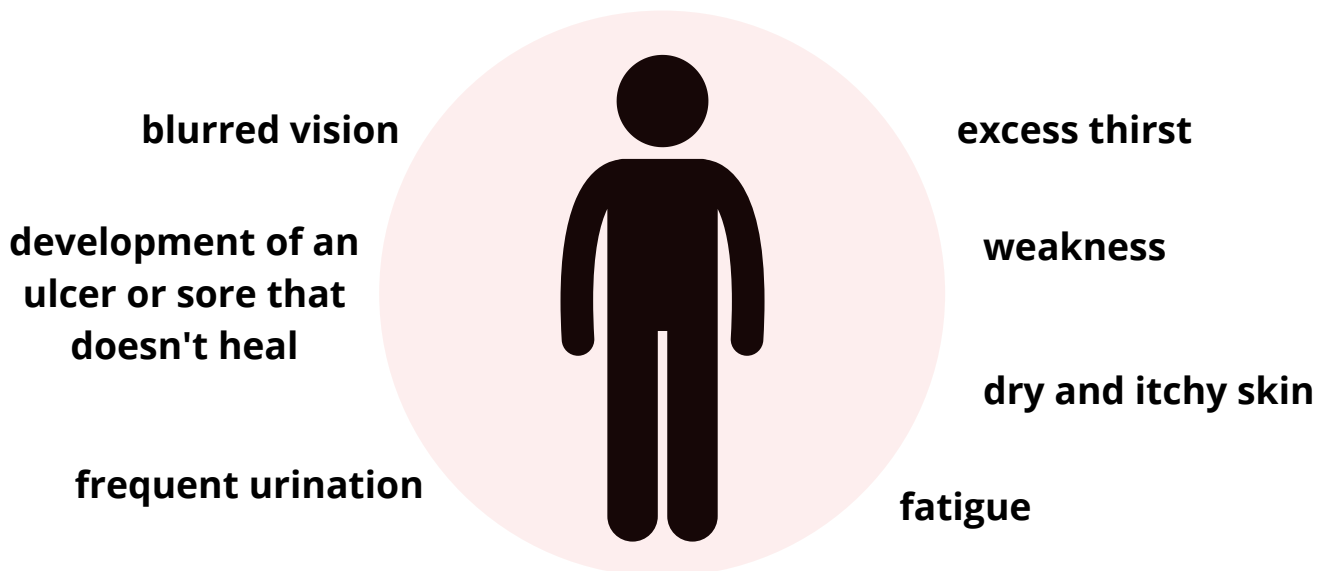
Your blood sugar levels will naturally go up and down throughout the day. Occasionally, you may experience abnormally high blood sugar (hyperglycemia) or low blood sugar (hypoglycemia). Both high and low blood sugars can cause serious health complications if not treated immediately. Use the following information to become familiar with the signs, symptoms and treatment strategies for hyperglycemia and hypoglycemia.

Hyperglycemia (High Blood Sugar)

Hyperglycemia is when your blood sugar is higher than normal. You may find your blood sugar spiking after you eat a large portion of carbohydrate-rich foods in one sitting, skip medication doses, or if you are sick or under a lot of stress.

It is important to know the signs and symptoms of hyperglycemia.

These include:



If you are experiencing any of the above, take the following action steps:

1. Check your blood sugar immediately.
2. Call your doctor right away if your blood sugar is above 300mg/dL.
3. **GO TO THE EMERGENCY ROOM** if your blood sugar is above 500mg/dL.

Hyperglycemia and Hypoglycemia

Hypoglycemia (Low Blood Sugar)

Hypoglycemia is when your blood sugar falls lower than normal. This can happen if you skip meals, take an improper dose of medication, or are exercising more than usual.

It is important to know the signs and symptoms of hypoglycemia.

These include:



If you are experiencing any of the above, take the following action steps:

1. Check your blood sugar immediately. If your blood sugar reads less than 70 mg/dL, eat or drink a carbohydrate-rich snack to quickly raise your blood sugar.

Choose ONE of the following:

- ½ cup of juice (apple, orange, grape, guava)
- 8 pieces of lifesaver hard candy
- 1 cup of milk
- A small portion of fruit (½ banana, 1 small apple, 1 small orange)
- A glucose tablet, if available

2. Check your blood sugar again after 15 minutes. If it is still below 70 mg/dL, repeat step 1.

3. Once your blood sugar returns to normal, eat a meal or snack with protein such as cottage cheese, yogurt, trail mix, peanut butter or beef jerky.

Diabetes Diet Overview

Being mindful about what you eat and drink can help you manage your diabetes. A diabetes-friendly diet focuses on a consistent carbohydrate intake with enough vegetables, whole grains, and lean proteins. A consistent carbohydrate intake means that you eat roughly the same amount of carbohydrate-containing foods at each meal or snack.

The two most popular techniques to help monitor carbohydrate intake are carb counting and the plate method.



Diabetes Diet

Carb Counting

Carb counting is one way to monitor your carbohydrate intake. Carb counting involves counting the number of grams of carbohydrates in each meal or snack and can help ensure you are taking the correct dose of insulin. If you do not take insulin, carb counting can help you practice a consistent carbohydrate intake.

The Nutrition Facts Label

Learning how to read nutrition labels can help you understand how many grams of carbohydrates individual foods contain. Look at the number next to “Total carbohydrates” to determine how many grams of carbohydrates are in one serving of a product. Remember, there can be more than one serving in a package.

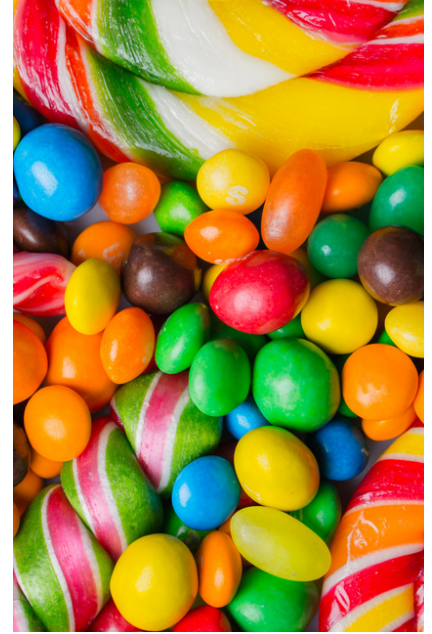
Review the nutrition label for popcorn. How many grams of carbohydrates are in one serving of popcorn?

Nutrition Facts	
1 servings per container	
Serving size	1/4 cup (50g)
Amount Per Serving	
Calories	180
% Daily Value*	
Total Fat 2.5g	3%
Saturated Fat 0g	0%
Trans Fat 0g	
Sodium 0mg	0%
Total Carbohydrate 36g	13%
Dietary Fiber 6g	21%
Total Sugars 0g	
Includes 0g Added Sugars	0%
Protein 6g	12%
Not a significant source of cholesterol, vitamin D, calcium, iron, and potassium	
*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.	

But Wait! There's More to Look For!

Sugar

You might have noticed that the nutrition facts label contains both a total sugars and added sugars section. The separation of the type of sugar helps you tell the difference between sugars that naturally occur in a food versus the sugars that are added during processing. For example, juice and yogurt have sugar in them naturally. But, some foods like cupcakes and tomato sauce can have sugar added to them. That is what “added sugars” refers to. Any of the naturally occurring sugars will be included on the “total sugars” line and any sugar added will be included under “added sugars”.



Fiber

Fiber is a type of carbohydrate found in plants and is important for our health. There are two types of fiber:

Soluble Fiber

Soluble fiber helps reduce cholesterol and high blood pressure. It can also keep blood sugar levels more stable after meals. Soluble fiber dissolves or breaks down in water. It is found in foods like oatmeal, peas, lentils, nuts, oranges, apples, and carrots.

Insoluble Fiber

Insoluble fiber provides bulk in your digestive system and helps prevent constipation. It also keeps your intestines healthy and strong and lowers the risk of colon cancer. Insoluble fiber does not dissolve in water. It is found in dark green leafy vegetables, corn, fruit skins, whole-wheat foods, and seeds.

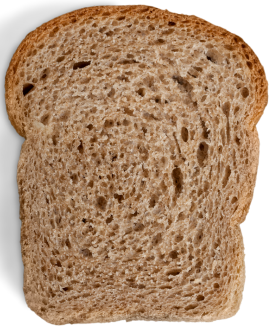
**Men over 50 years old
should take in 30 grams
of fiber each day**

**Women over 50 years old
should take in 21 grams
of fiber each day**

Diabetes Diet

Carb Counting

Most people qualify one serving of carbohydrates as 15 grams, also known as one “carbohydrate choice”. Educating yourself on how many “carbohydrate choices” are in typical foods can help you better plan your meals and snacks. One “carbohydrate choice” is equal to one small fruit such as an apple or an orange, $\frac{1}{2}$ cup cooked vegetables, 1 slice of bread, $\frac{1}{3}$ cup cooked pasta or rice, 6 crackers, or $\frac{1}{4}$ of a large baked potato.



1 slice of bread



$\frac{1}{3}$ cup cooked
pasta or rice



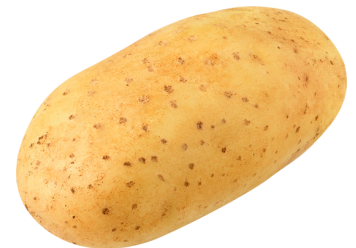
6 crackers



1 small fruit



$\frac{1}{2}$ cup cooked
vegetables



$\frac{1}{4}$ baked potato

How many carbohydrate servings should the average person have?

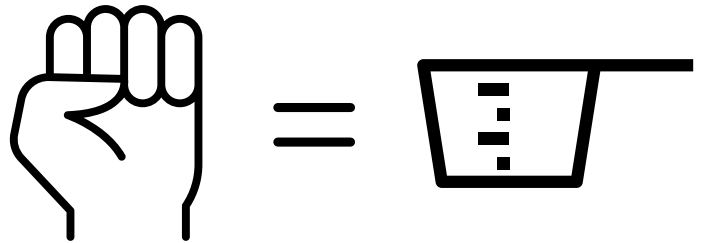
The ideal number of “carbohydrate choices” or grams of carbs that should be consumed at each meal varies person to person based on body size and activity level. Be sure to check with your doctor about the recommended number of servings of carbohydrates you should eat each day.

Diabetes Diet

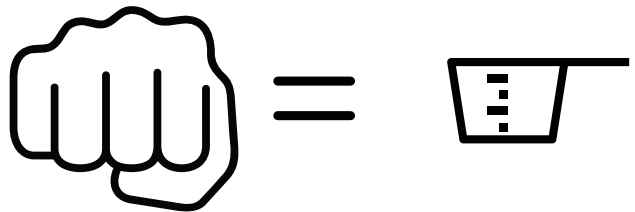
The Plate Method

The plate method is another technique to help you practice a consistent carbohydrate intake. First, use a 9" plate. Aim to fill half of your plate with non-starchy vegetables, one-quarter of your plate with protein, and one-quarter of your plate with grains or starchy vegetables. You may also find it helpful to use your hand to determine the appropriate portion sizes you should be eating.

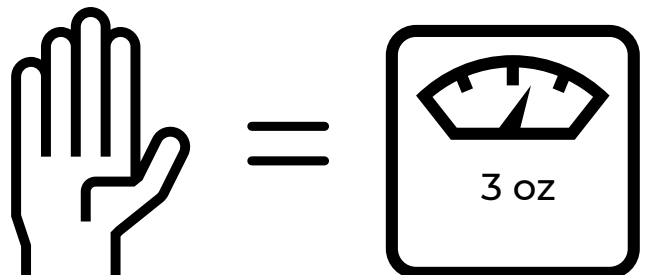
- Your fist is about the size of 1 cup. Aim to fill your plate with at least 1 cup of non-starchy vegetables.



- The front of your closed fist (your fingers) is about the size of ½ cup. Aim to fill your plate with ½ cup of grains and/or starchy vegetables.



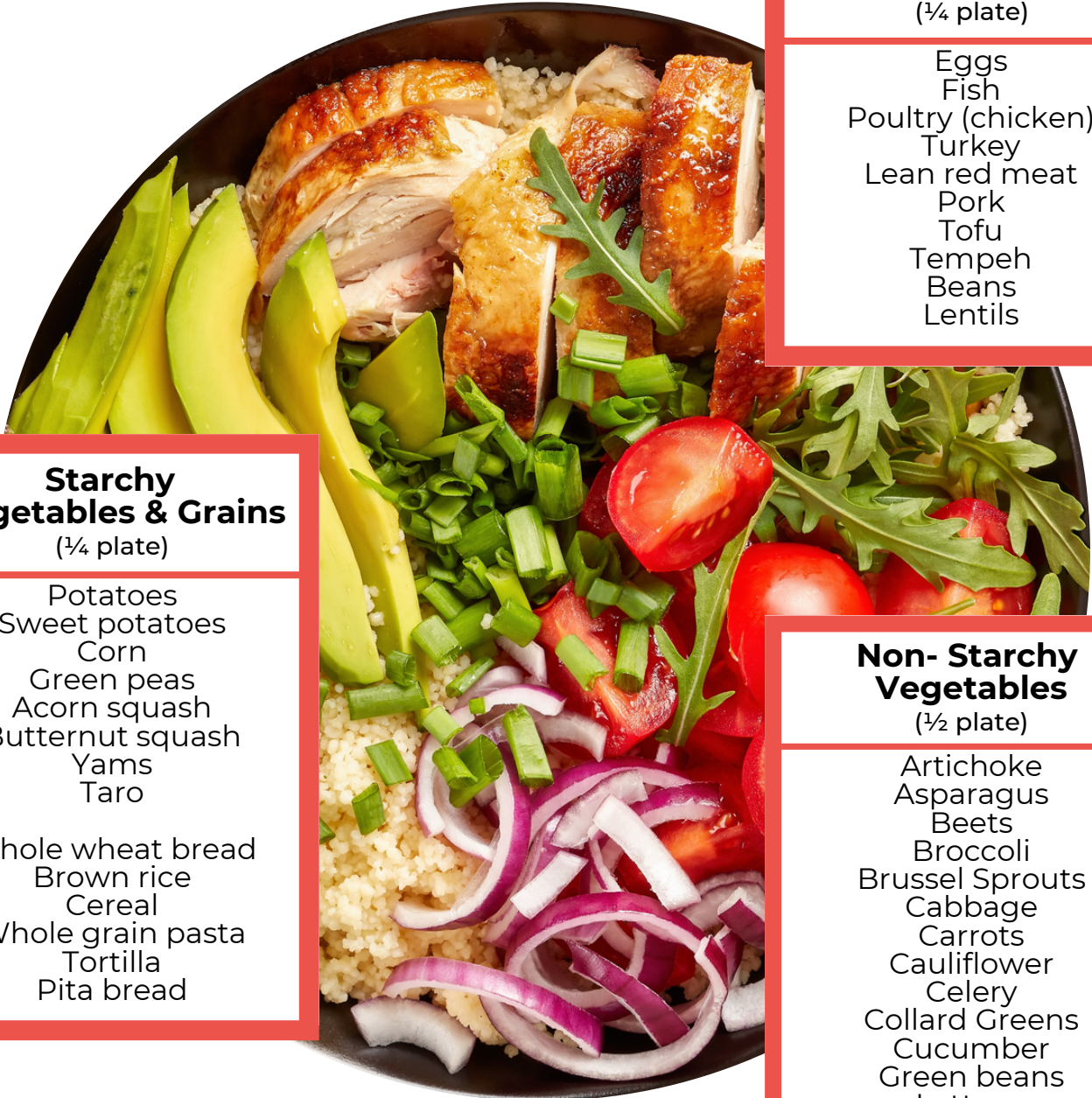
- Your palm (without including your fingers) is equivalent to approximately 3 oz of meat. Aim to eat no more than a palm's worth of chicken, turkey, or beef in one meal.



Diabetes Diet

The Plate Method

Review the following lists to learn the difference between non-starchy and starchy vegetables, proteins, and grains.



Protein

($\frac{1}{4}$ plate)

Eggs
Fish
Poultry (chicken)
Turkey
Lean red meat
Pork
Tofu
Tempeh
Beans
Lentils

Starchy Vegetables & Grains

($\frac{1}{4}$ plate)

Potatoes
Sweet potatoes
Corn
Green peas
Acorn squash
Butternut squash
Yams
Taro

Whole wheat bread
Brown rice
Cereal
Whole grain pasta
Tortilla
Pita bread

Non- Starchy Vegetables

($\frac{1}{2}$ plate)

Artichoke
Asparagus
Beets
Broccoli
Brussel Sprouts
Cabbage
Carrots
Cauliflower
Celery
Collard Greens
Cucumber
Green beans
Lettuce
Mushrooms
Onions
Peppers
Zucchini

Lifestyle Changes with Diabetes

In addition to the diet changes mentioned previously, exercise and stress management are also important in managing diabetes.

Exercise

Remember that the American Diabetes Association recommends a minimum of 2.5 hours of exercise per week. Try to get around 20-25 minutes of walking, running, swimming, or biking per day to achieve this goal.

Join your local fitness center, exercise with a friend, walk around your neighborhood, or even just stretch inside your home. It is important to aim for small changes as they are more likely to last over time. Start with 5 minutes of exercise and slowly work up to 25 minutes a day.



Stress Management

Both physical and emotional stress can affect how the body processes blood sugars. When the body experiences stress, stress hormones are produced which can cause increased blood sugar. Managing stress levels can help you manage blood sugars more efficiently.

Here are some tips on how to manage stress:

- Set aside time to relax and practice self-care
- Do things you enjoy
- Meditate
- Eat a nutrient-rich diet
- Stay active



Your Diabetes Daily Action Plan

Living with diabetes can be overwhelming. Following a personalized daily action plan can set you up for success and minimize stress. Here is an example of what your diabetes daily action plan may look like.

Diabetes Action Plan

Medication

- Take your medication as prescribed. You may find it helpful to set a daily alarm to help remind you. Report any unwanted side effects to your doctor.

Blood Sugar

- Monitor your blood sugar levels at home with at-home monitoring devices. Ask your doctor to check your blood glucose and A1C every time you go to the doctor's office.

Diet

- Learn which foods contain carbohydrates.
- Learn the food equivalents to one "carbohydrate choice".
- Eat a consistent amount of carbohydrates throughout the day.
- Limit foods high in added sugars.

Lifestyle

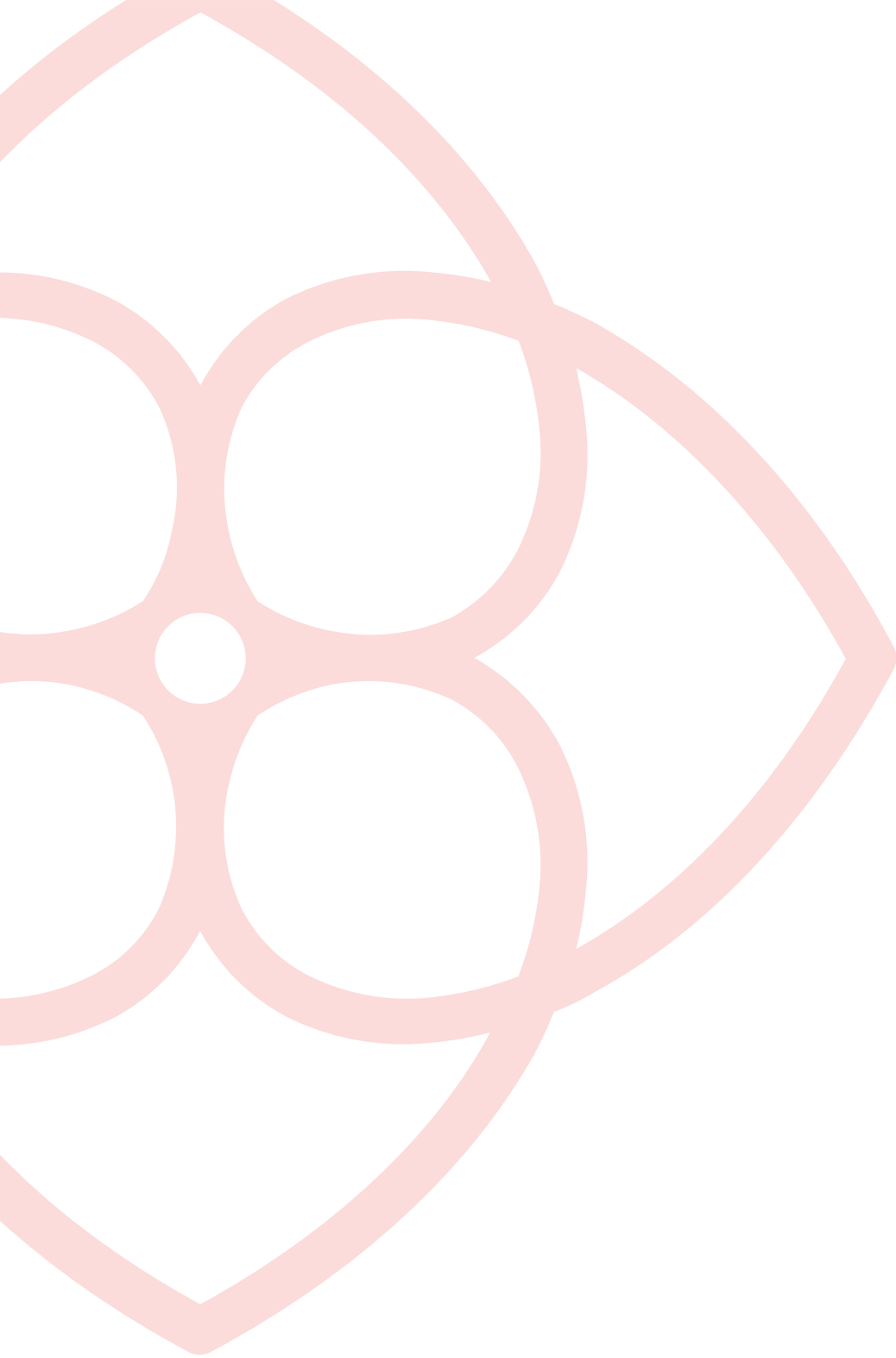
- Make small changes to your daily habits to better your health.
- Eat a variety of fruits, vegetables, lean proteins, and whole grains.
- Exercise for at least 20-25 minutes each day.
- Practice meaningful ways to reduce stress.
- Quit smoking.
- Find a support team that can help motivate you to reach your goals.

Symptoms

- Be aware of symptoms for hyperglycemia and hypoglycemia and what to do in those situations.
- **Hyperglycemia:** excess thirst, fatigue, weakness, blurred vision, increased urinary frequency
- **Hypoglycemia:** hunger, feeling nervous, shaking, rapid heartbeat

From Lesson to Action

How are you currently managing your diabetes? What is working? What are some positive changes you can make?
Which foods contribute to your daily carbohydrate intake?
What are the signs and symptoms of high and low blood sugar?



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Food is healthcare.**

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