**Diabetes and Diet**

* Nutrition and physical activity are important parts of a healthy lifestyle when you have diabetes. Along with other benefits, following a healthy meal plan and being active can help you keep your blood glucose level, also called blood sugar, in your target range. To manage your blood glucose, you need to balance what you eat and drink with physical activity and diabetes medicine, if you take any. What you choose to eat, how much you eat, and when you eat are all important in keeping your blood glucose level in the range that your health care team recommends.Becoming more active and making changes in what you eat and drink can seem challenging at first. You may find it easier to start with small changes and get help from your family, friends, and health care team.
* Eating well and being physically active most days of the week can help you:
* keep your blood glucose level, blood pressure, and cholesterol in your target ranges
* lose weight or stay at a healthy weight
* prevent or delay diabetes problems
* feel good and have more energy

you can still eat your favorite foods, but you might need to eat smaller portions or enjoy them less often. Your health care team will help create a diabetes meal plan for you that meets your needs and likes.The key to eating with diabetes is to eat a variety of healthy foods from all food groups, in the amounts your meal plan outlines.

The food groups are

**Vegetables**

nonstarchy: includes broccoli, carrots, greens, peppers, and tomatoes

starchy: includes potatoes, corn, and green peas

**Fruits**—includes oranges, melon, berries, apples, bananas, and grapes

**Grains**—at least half of your grains for the day should be whole grains

includes wheat, rice, oats, cornmeal, barley, and quinoa

examples: bread, pasta, cereal, and tortillas

**Protein**

* lean meat
* chicken or turkey without the skin
* fish
* eggs
* nuts and peanuts
* dried beans and certain peas, such as chickpeas and split peas
* meat substitutes, such as tofu

**Dairy—nonfat or low fat**

* milk or lactose-free milk if you have lactose intolerance
* yogurt
* cheese

Eat foods with heart-healthy fats, which mainly come from these foods:oils that are liquid at room temperature, such as canola and olive oil,nuts and seeds,heart-healthy fish such as salmon, tuna, and mackerel,Use oils when cooking food instead of butter, cream, shortening, lard, or stick margarine.

**Foods and drinks to limit include**

* fried foods and other foods high in saturated fat and trans fat
* foods high in salt, also called sodium
* sweets, such as baked goods, candy, and ice cream
* beverages with added sugars, such as juice, regular soda, and regular sports or energy drinks
* Drink water instead of sweetened beverages. Consider using a sugar substitute in your coffee or tea.

If you drink alcohol, drink moderately—no more than one drink a day if you’re a woman or two drinks a day if you’re a man. If you use insulin or diabetes medicines that increase the amount of insulin your body makes, alcohol can make your blood glucose level drop too low. This is especially true if you haven’t eaten in a while. It’s best to eat some food when you drink alcohol.



**When should a diabetic patient have to eat?**

Some people with diabetes need to eat at about the same time each day. Others can be more flexible with the timing of their meals. Depending on your diabetes medicines or type of insulin, you may need to eat the same amount of carbohydrates at the same time each day. If you take “mealtime” insulin, your eating schedule can be more flexible.

If you use certain diabetes medicines or insulin and you skip or delay a meal, your blood glucose level can drop too low. Ask your health care team when you should eat and whether you should eat before and after physical activity.

**Meal plan methods**

Two common ways to help you plan how much to eat if you have diabetes are the plate method and carbohydrate counting, also called carb counting.

**Plate method**

The plate method helps you control your portion sizes. You don’t need to count calories. The plate method shows the amount of each food group you should eat. This method works best for lunch and dinner.Use a 9-inch plate. Put nonstarchy vegetables on half of the plate; a meat or other protein on one-fourth of the plate; and a grain or other starch on the last one-fourth. Starches include starchy vegetables such as corn and peas. You also may eat a small bowl of fruit or a piece of fruit, and drink a small glass of milk as included in your meal plan.Your daily eating plan also may include small snacks between meals.

**Portion sizes**

You can use everyday objects or your hand to judge the size of a portion.

1 serving of meat or poultry is the palm of your hand or a deck of cards

1 3-ounce serving of fish is a checkbook

1 serving of cheese is six dice

1/2 cup of cooked rice or pasta is a rounded handful or a tennis ball

1 serving of a pancake or waffle is a DVD

2 tablespoons of peanut butter is a ping-pong ball

0r you can judge like this

1.3 ounces of meat, fish, or poultry

Palm of hand (no fingers)

2.1 ounce of meat or cheese

Thumb (tip to base)

3.1 cup or 1 medium fruit

Fist

4.1–2 ounces of nuts or pretzels

Cupped hand

5.1 tablespoon

Thumb tip (tip to 1st joint)

6.1 teaspoon

Fingertip (tip to 1st joint)



**Carbohydrate counting**

One way to manage blood sugar levels is to decide how many carbohydrates to consume each day and how to spread those among meals, according to the National Institute of Diabetes and Digestive and Kidney Diseases.

People can then choose how to “spend” their carbohydrates by using a carbohydrates exchange list. It ranks foods according to the number of carbs that they contain, making it simpler to swap one type of food for another.

Experts no longer recommend a standard carb intake for people with diabetes, as each person has different requirements. Speak with a doctor about how many and what type of carbs to consume each day, as well as how to disperse them throughout the day.

The type of carb can also affect the amount that a person can eat. Highly processed carbs and sugars can raise blood glucose levels quickly without offering any nutritional benefits.

Fiber, on the other hand, is slow to digest and can help with weight and glucose management. Current guidelines recommend a fiber intake of 28.0 to 33.6 grams each day for most adults. Males may need up to 38 grams per day.

**Glycemic index**

The glycemic index (GI) ranks foods according to how quickly they raise blood sugar levels.

Foods with high GI scores increase blood sugar levels rapidly. These foods include sugars and other highly processed carbs.

Foods with low scores contain no or few carbs or they contain fiber, which the body does not absorb as quickly as processed carbs.

Here are some examples of carbohydrate-rich foods and their GI scores:

**Low-GI foods** (with scores of 55 or less): 100% stone-ground, whole-wheat bread, sweet potato with the skin, most fruits, whole oats

**Medium-GI foods** (56–69): Quick oats, brown rice, whole-wheat pita bread

**High-GI foods** (70 and above): white bread, russet potatoes, candies, white rice, melon

People with diabetes need to consider the type of carbs as well as how many they consume.

Food exchange lists

One way to keep track of carbs is with a food exchange list.

These lists can also group foods with similar levels of fats and proteins, and they may include subcategories, of starches, fruits, milk, vegetables, meat and meat substitutes, and fat, for example.Factors that affect dietary choices for people with diabetes include:

* balancing carbohydrate intake with activity levels and the use of insulin and other medications
* consuming plenty of fiber to help manage blood sugar levels and reduce the risk of high cholesterol, weight gain, cardiovascular disease, and other health issues
* limiting processed carbohydrates and foods with added sugars — such as candies, cookies, and sodas — which are more likely to cause a sugar spike than whole grains and vegetables, for example
* understanding how dietary choices can impact the complications of diabetes, for example, the fact that salt increases the risk of high blood pressure
* managing weight, as this can help a person manage the development of diabetes and its complications
* taking into account individual treatment plans, which will contain recommendations from a doctor or dietitian



Five diabetes superfoods

1. Chia seeds

Chia is a type of seed that provides fiber, protein, and omega-3 fatty acids. Chia is a superfood because it brings down the glycemic load of any meal, increases hunger satisfaction (satiety), and stabilizes bloods sugar. Adding chia to your breakfast will help keep you full longer. They primary type of fiber in chia is soluble fiber. Soluble fibers turn to a gel when mixed with water. This makes chia seeds excellent to use in baking and cooking when a thickener is needed. Chia mixed with almond milk, cocoa, and a low-glycemic index sweetener like agave or stevia makes an excellent healthy pudding!

2. Wild salmon

Salmon is a type 2 diabetes superfood because salmon is a great source of anti-inflammatory omega-3 fatty acids. There are differences in the fatty acids in wild vs. farmed salmon. This is because of what the fish eat. Wild salmon eat smaller fish and live in colder waters, which causes them to develop a higher ratio of anti-inflammatory omega-3s to saturated fats in their meat. Farmed fish are up to 10 times higher in persistent organic pollutants, antibiotics, and other contaminants. These harmful chemicals are pro-inflammatory and have been associated with increased risk of cancer and heart disease.

3. White balsamic vinegar

The superfood vinegar is best consumed as vinaigrette dressing on your salad, but it has beneficial effects no matter how you enjoy it. Vinegar slows gastric emptying, which has several beneficial effects for people with type 2 diabetes. This slows the glucose release into the bloodstream, allowing for a small, steady insulin response instead of a large insulin surge. Vinegar also increases satiety, so if you enjoy salad with vinaigrette as your first course, you are less likely to overeat during the main course.

4. Cinnamon

Cinnamon lowers the blood glucose level in people with type 2 diabetes, and it has been well researched and found to be beneficial at doses of about 1 teaspoon/day.

Cinnamon lowers both fasting and postprandial (after meals) blood sugar levels.

It is easy to add to any dietary pattern.Cinnamon can be sprinkled on oatmeal.It also is tasty added to coffee!Its high polyphenol content also has added benefit in preventing health complications.

5. Lentils

Lentils are a superfood because they contain important vitamins, have great protein, and have lots of fiber. Lentils are rich in:

iron,other minerals, andB vitamins such as folate.

Lentils have a great balance of protein and complex carbohydrate (high in fiber), and are very versatile to cook with.

**Different types of diets for diabetic patients:**

**Vegan Diet**

A vegetarian or vegan diet can be a good choice for people with diabetes. Vegetarian and vegan diets are typically high in carbohydrates - about 13% higher than a diet with that includes both plant and animal products (omnivorous) – which we generally think is bad for diabetes. However, a vegetarian or vegan diet is typically fiber-rich and lower in calories and saturated fat, so the inflammatory risks associated with high meat consumption are avoided. Research studies that have tested vegetarian and vegan diets for people with diabetes; have found them to be beneficial at reducing blood sugar.

A good quality vegetarian or vegan diet:

Is high in vegetables and fruits

Includes quality proteins such as beans, nuts, and seeds

Includes plant-based fats such as olive oil and avocado

Prioritizes whole grains such as brown rice and quinoa rather than refined carbohydrates (sweets and processed, packaged white foods)

**ADA Diabetes Diet**

The American Diabetes Association (ADA) advocates for a healthy diet with an emphasis on balancing energy intake with exercise. Historically, they have advocated for the majority of calories coming from complex carbohydrates from whole grains such as whole-grain bread and other whole-grain cereal products and a decreased intake of total fat with most of it coming from unsaturated fat.

Recently, this has shifted to acknowledge that there is no one ideal macronutrient ratio, and that dietary plans should be individualized. ADA guidelines advocate:

Low glycemic load

Avoid sugar-sweetened beverages including soda

The importance of fat quality as well as quantity

However, many people find these guidelines difficult to implement in real-life, and the dietary patterns described below can be easier and more common sense ways for people to manage their eating plan.

**Paleo Diet**

Paleolithic diets include a moderate amount of protein, and have gained a lot of attention recently. The theory behind this dietary pattern is that our genetic background has not evolved to meet our modern lifestyle of calorically dense convenience foods and limited activity, and that returning to a hunter-gatherer way of eating will work better with human physiology. This has been studied in a few small trials, and it does seem beneficial for people with type 2 diabetes.

The Paleolithic diet is based on:

Lean meat

Fish, fruit

Leafy and cruciferous vegetables

Root vegetables

Eggs

Nuts

The Paleolithic diet excludes:

* Dairy products
* Grains of all kinds
* Beans
* Refined fats
* Sugar
* Candy
* Soft drinks
* Beer

Any extra addition of salt

The Paleo Diet doesn't specify macronutrient balance or caloric intake goals.

In reality, when people in a study followed the Paleolithic diet, it turned out the diet was lower in total energy, energy density, carbohydrates, dietary glycemic load, fiber, saturated fatty acids, and calcium; but higher in unsaturated fatty acids (good fats), dietary cholesterol, and several vitamins and minerals. Research also demonstrates that people with diabetes are less hungry, have more stable blood sugar, and feel better with lower carbohydrate diets.

**Mediterranean diet**

The Mediterranean diet is high in vegetables. This refers to the true Mediterranean pattern traditionally followed in the south of Italy and Greece, not "Americanized Italian," which is heavy in pasta and bread. The Mediterranean pattern includes:

Lots of fresh vegetables

Some fruit

Plant-fats such as olive oil

Avocados and nuts

Fish such as sardines

Some wine

Occasional meat and dairy

This pattern of eating is very nutrient-dense, meaning you get many vitamins, minerals, and other healthful nutrients for every calorie consumed. A very large recent study demonstrated that two versions of the Mediterranean diet improved diabetes control including better blood sugar and more weight loss. The two versions of the Mediterranean diet that were studied emphasized either more nuts or more olive oil. Since both were beneficial, a common-sense approach to adopting the Mediterranean diet would include both of these. For example, sprinkle chopped almonds on green beans or drizzle zucchini with olive oil, oregano