

Meal planning is the cornerstone of diabetes management. You can make a difference in your blood glucose control through your food choice. Learning what to eat and how much to eat is important part of your diabetes treatment plan, as well as diabetes prevention plan.

How does diet impact diabetes?

What you eat can impact your blood sugar levels, making diet an important part in managing and preventing diabetes. Learning what to eat and how much to eat is important part of your diabetes treatment plan by keeping your blood sugar within range.

Starting a diet with diabetes:

1. **Control the total amount of carbohydrate you eat.** Carbohydrate is the main nutrient affects your blood glucose level. Starches, grain, and sugar are example of carbohydrates that can affect your blood glucose level.
2. **Choose food low in fat.** Diabetes can put you at a higher risk of other health problems such as heart attack, stroke and kidney failure; therefore, you should watch how much fat and the type of fat you eat. Select lean meat, low fat dairy products and use low fat cooking method. Low fat diet will also aid in weight loss which will help lower your blood glucose level.
3. **Control portion sizes.** Eating smaller portions, especially in carbohydrate-rich food, will help you control your blood glucose level and weight.
4. **Eat about the same time every day and with the same amount of carbohydrate at each meal.** Eating at a regular schedule is good for everyone because it helps control blood glucose better, keeps metabolism boosted up and prevent overeating.

Carbohydrate, Protein, Fat: Effect on blood Glucose

Carbohydrate: Carbohydrate is one of the body main sources of energy. However, carbohydrate is broken down to glucose and has the largest effect on blood glucose level more than either fat or protein. This makes controlling the amount of carbohydrate in your meal a key strategy to control your blood sugar.

- Foods that contain carbohydrate.
 - Bread, grains, and cereal
 - Pasta and rice
 - Dried beans and peas
 - Milk and yogurt
 - fruit and juices
 - sugar and sweets

- Control Total Carbohydrate
 - People living with diabetes, should get about 45% of their total calories each from carbohydrate.
 - Women:
 - Men

Protein: Proteins are slower to digest and do not affect blood glucose level.

- Protein containing foods are:
 - Meat (all types)
 - Fish and seafood
 - Poultry
 - Eggs
 - Cheese
 - Tofu

Fat: Fats are also slow to digest and do not affect blood glucose levels

- Examples of fats are:
 - Butter and margarine
 - Oils
 - Nuts and seeds
 - Avocado
 - Olives
 - Salad dressing
 - Cream cheese
 - Sour cream

Best diets for people with diabetes:

	What is it?	Pros	Cons
DASH	<ul style="list-style-type: none"> • This diet focused on reducing sodium intake to 1500mg to 2300mg per day. DASH diet is an evidence-based eating plan that can help reduce high blood pressure. This plan may also decrease the risk of heart attack, stroke, diabetes, osteoporosis, and certain cancers. • recommended to consume a variety of whole grains and high-fiber fruits and vegetables, and moderate amounts of low-fat dairy products, lean meats, and heart-healthy fish. In addition, DASH limits the use of saturated fats to less than 7 percent of total calories and limits the consumption of sweets and alcohol. • The DASH diet also calls for consuming less added sugar and drinking fewer sugar-sweetened drinks. It replaces red meat with fish and legumes and calls for increased calcium, magnesium, potassium, and fiber. 	<ul style="list-style-type: none"> • Recommended by the National Heart, Lung, and Blood Institute, the American Heart Association, and many physicians. • Helps to lower blood pressure and cholesterol. • Reduces risk of heart disease and stroke • Reduces risk of certain cancers • Reduces diabetes risk 	<ul style="list-style-type: none"> • Risk for hyponatremia
KETO	<ul style="list-style-type: none"> • Keto diet is a low carb, high fat diets. It involves reducing carbohydrate intake and replacing it with fat. This reduction in carbs put your body into a metabolic state called ketosis. 	<ul style="list-style-type: none"> • The Ketogenic diets can decrease glycemia, lower levels of fasting insulin, decreased insulin resistance, and potentiating decreased 	<ul style="list-style-type: none"> • patients diagnosed with diabetes on insulin or oral hypoglycemic agents may suffer severe hypoglycemia if their

	<ul style="list-style-type: none"> • Chose keto friendly foods that are low in carbs like meat, fish, seafood, cheese, and vegetables with real vegetable. • Avoid bread, potatoes, rice, sweets, and other foods that are high carbs 	<p>requirements of insulin and/or oral glycemic medications</p>	<p>medication regimen is not properly managed during the initiation of KD.</p> <ul style="list-style-type: none"> • Short-term side effects resulting from the initiation of KD have been referred to as “keto flu,” which encompasses symptoms including fatigue, headache, dizziness, nausea, vomiting, constipation, and low exercise tolerance
<p>Mediterranean</p>	<ul style="list-style-type: none"> • This diet features food from plant sources, including vegetables, fruits, whole grains, beans, nuts, seeds, breads and potatoes, and olive oil. • It also limits the consumption of processed foods and recommends eating locally grown foods rich in micronutrients and antioxidants. • Other aspects of this eating plan include consuming fish and poultry at least twice per week, eating red meat only a few times per month, having up to seven eggs per week, and drinking red wine in moderation 	<ul style="list-style-type: none"> • A reduced risk of cardiovascular disease and mortality • A lower risk of cancer • De-emphasizes processed foods and emphasizes whole foods and healthy fats. • Lower sodium intake, due to fewer processed foods • Emphasis on monosaturated fats leads to lower cholesterol. • Highlighting fruits and vegetables raises 	<ul style="list-style-type: none"> • Does not specify daily serving amounts. • Potential for high fat and high calorie intake as nuts and oils are calorie-dense foods • Drinking one to two glasses of wine per day may not be healthy for those with certain conditions

		consumption of antioxidant	
Paleo	<ul style="list-style-type: none"> • The Paleo diet replaces dairy and grain products with free range meat, fresh fruits and vegetable – usually 65% animal based and 35% plant based food. • Foods allowed includes meat, fish, shellfish, eggs, tree nuts, vegetable, roots, fruits, berries, and mushrooms. Oils allowed include olive, avocado, palm, and walnut. • Food NOT allowed include grains, dairy products, beans, legumes, potatoes, sugar, and processed food. 	<ul style="list-style-type: none"> • More fruits and vegetables • Cuts out added sugar and sodium. • The combination of plant-based foods and a diet rich in protein can help control and regulate blood sugar, maintain weight loss, and prevent Type 2 diabetes 	<ul style="list-style-type: none"> • Exclusion of whole grains, legumes and dairy can be risky. These foods are nutrient-rich and contain important vitamin and minerals such as calcium and vitamin D.
Atkin	<ul style="list-style-type: none"> • The Atkins Diet cut carbohydrate from diet. • Foods allowed included red meat, eggs, cheese, butter and bacon. • Foods NOT allowed include bread, pasta, potatoes, cereal, foods containing sugar, high sugar fruits and vegetables, and fruit juices. 	<ul style="list-style-type: none"> • Less refined sugar, white rice / flour = less calories from refined foods • Fruits, vegetables, and wholegrain foods are encouraged after the two-week induction period. • May improve lipid profile. • Modified versions promote a healthier variety of foods like lean protein, produce, nuts, legumes and, in some cases, whole grains and healthy fats 	<ul style="list-style-type: none"> • May be too restricted in carbohydrates. • Too much protein can harm people prone to kidney issues

Resources

1. Best diets for people with diabetes of 2023 [Internet]. Forbes Magazine; 2023 [cited 2023 Jun 6]. Available from: <https://www.forbes.com/health/body/best-diet-for-diabetics/>
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3. Watts M. Carbohydrates and Diabetes [Internet]. 2022 [cited 2023 Jun 6]. Available from: <https://www.diabetes.co.uk/nutrition/carbohydrates-and-diabetes.html>
4. Paterson M, Bell KJ, O'Connell SM, Smart CE, Shafat A, King B. The Role of Dietary Protein and Fat in Glycaemic Control in Type 1 Diabetes: Implications for Intensive Diabetes Management. *Curr Diab Rep.* 2015 Sep;15(9):61. doi: 10.1007/s11892-015-0630-5. PMID: 26202844; PMCID: PMC4512569.
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