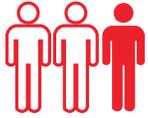




# Diabetes & Nutrition: The Facts You NEED to Know



## WHAT IS PRE-DIABETES?

Did you know an estimated 34% of U.S. adults ages 18 and older have pre-diabetes? Pre-diabetes (also known as impaired fasting glucose) is a condition in which blood glucose levels are higher than normal, but not high enough for a diabetes diagnosis. To diagnose pre-diabetes, healthcare professionals may perform either the 75 g oral glucose tolerance test or fasting plasma glucose (FPG) test, or measure your % hemoglobin A1C. Those who have two consecutive FPGs in the range of 100-125 mg/dL, are diagnosed as pre-diabetic. People with pre-diabetes are at an increased risk of developing type 2 diabetes later in life, unless they make some lifestyle changes.<sup>1-2</sup>



## WHAT IS DIABETES?

Diabetes is a disease in which the body is unable to use and properly store glucose (a form of sugar), therefore, glucose builds up in the bloodstream causing one's blood glucose to rise too high. There are two major types of diabetes, Type I and Type II. In Type I, the body stops making insulin, a hormone produced by the pancreas that enables the body to use glucose found in foods for energy. People with Type I require insulin therapy for life. In Type 2, either the body does not produce enough insulin, or it is resistant to the normal action of insulin. Uncontrolled blood sugar levels can increase your risk for heart attack and stroke, and lead to complications including kidney disease, nerve damage, hearing loss and even death.<sup>3</sup>



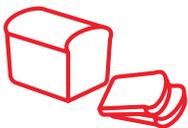
## NUTRITION AND DIABETES

Nutrition plays a significant role in the overall management of diabetes. It is possible to take good care of yourself and control your diabetes if you understand what to eat, how much to eat, and when to eat. Choosing nutrient rich foods in appropriate portion sizes and healthy sources of carbohydrates can help control your blood glucose levels in your target range. Frequent self-monitoring of blood glucose can be used (*with proper instruction*) to keep track of the effects of meals and activity levels on blood glucose levels. It is important to work with your healthcare team to make adjustments to food intake, physical activity, and medication (*if needed*) to keep blood glucose as close to normal as possible.<sup>2</sup>



## FOODS THAT AFFECT BLOOD SUGAR

Different types and excessive carbohydrate intake can raise blood sugar levels. In the diet, two main types of carbs (commonly known as sugars) exist; naturally occurring and added sugars. Naturally occurring sugars are inherent in foods and include fructose (found in fruit) and lactose (found in milk). Added sugars include any sugars or caloric sweeteners that are added to foods or beverages during processing or preparation of food. Some examples of added sugars are table sugar, brown sugar, honey, or high fructose corn syrup. Limiting added sugars is essential for blood sugar management; however, all carbs can impact blood sugar levels, if consumed in excess.<sup>4</sup>



## CARB COUNTING IS KEY

Carbohydrates turn into glucose in the body and therefore affect blood glucose levels more than fat or protein-containing foods. This does not mean that you have to give up all carb-containing foods; however, monitoring your total carbohydrate intake is essential. Choose carbs that come from nutrient-dense sources like fruit, vegetables, dairy, legumes and whole grains, along with controlled portion sizes. Carbohydrate counting is a key strategy for managing diabetes. One "Carb Choice" is equivalent to 15 grams of carbohydrates. Eating 5 – 6 small meals per day with a specific amount of Carb Choices is best. To determine the optimal amount of Carb Choices needed in your diet, consider working with a Registered Dietitian Nutritionist (RDN).<sup>5</sup>

Developed by Registered Dietitian Nutritionists at:



## CHOOSE SOURCES OF LEAN PROTEIN

Protein is an essential nutrient that is needed in the diet every single day, and unlike carbohydrates and fats, protein cannot be stored in the body. In diabetes management, protein appears to increase insulin response without increasing blood glucose concentrations. It also helps to reduce hunger and improve satiety. Protein is found in various food sources that are either animal- or plant-based. Some examples of animal sources of protein are chicken, beef, eggs and milk, while legumes, soy, whole grains like quinoa, and nuts are plant sources. When incorporating protein into a diabetes meal plan, look for protein sources that supply unsaturated fats like low-fat dairy, lean meats, poultry, legumes, fish and eggs.<sup>6-9</sup>



## FOCUS ON HEALTHY FATS

When incorporating fat into a diabetes meal plan, you should focus on foods that supply “healthy fats” while limiting “unhealthy fats” such as trans and saturated fats. Choose from mono and polyunsaturated fats, and omega-3 fats. Examples of healthy fat food sources include avocado, oils (olive and flaxseed), olives, nuts (almonds, cashews, pecans, peanuts, walnuts), seeds (pumpkin, sunflower, flaxseed) and fatty fish such as salmon and albacore tuna.<sup>10</sup>



## BE SODIUM-SAVVY

People with diabetes should monitor their sodium intake, since they are more likely to have high blood pressure. Some examples of high-sodium foods include canned soups, canned vegetables, cold cuts, pizza, savory snacks, salted nuts, cereals, and some condiments such as soy sauce, ketchup, mustard and pickles. One teaspoon of salt contains 2,300 mg of sodium. Sodium intake should be less than 2,300 mg per day (especially for those with high blood pressure), and ideally no more than 1,500 mg per day for most Americans. Check nutrition labels as sodium is found in a vast majority of the foods we eat every day even if we never pick up the salt shaker.<sup>11-14</sup>



## WHAT ALCOHOLIC AND NON-ALCOHOLIC DRINKS CAN I HAVE?

Women with Type 1 or Type 2 diabetes should consume no more than 1 drink a day and men should consume no more than 2 drinks a day. Alcohol should be consumed with a meal or snack that includes carbohydrates, since alcohol alone can put someone at risk for low blood glucose. Other beverages can also affect blood glucose levels. Avoid sugary drinks like regular soda, fruit punch, fruit drinks, energy drinks, and sweet tea. Instead, choose from water, unsweetened teas, plain coffee, low-fat or fat-free milk, or juice (4 ounces or less), and aim for 8 cups per day of non-caloric beverages.<sup>15-16</sup>



## SIMPLE STEPS TO HELP LOWER YOUR RISK OF DIABETES

While you can't change the genes you inherit and how that influences your risk of developing diabetes, you can make some positive behavioral and lifestyle changes. If you are overweight, lose weight and get moving. Achieving a 7% weight loss goal and taking a brisk walk for 30 minutes each day can significantly reduce your risk for developing Type 2 diabetes. Also, if you smoke, quit. Did you know that smokers are 50% more likely to develop diabetes compared to nonsmokers? Heavy smokers have an even higher risk. Finally, aim for 7-8 hours of sleep each night.<sup>2, 17-20</sup>



## SET AN ACTION PLAN

When you have Type 1 or Type 2 diabetes, it is important to test your blood sugar regularly, have an action plan and set small goals with your healthcare team. For example, you should talk with your doctor and ask about your levels of hemoglobin A1C (a protein on the surface of red blood cells that sugar molecules stick to). Set a goal to get your A1C to less than 7%. Also, meeting with an RDN regularly can help to keep your meal plans in check, keep your blood glucose levels in target range, and provide encouragement to achieve a healthy lifestyle.<sup>2, 21</sup>

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