

# *Disability Campaign.org*

## **Managing Diabetes**



Diabetes is a metabolic illness that inhibits the production and usage of insulin in the body. When that occurs glucose (sugar) stays in the bloodstream rather than absorbing into the cells and creating energy.

When the glucose levels rise, the pancreas secretes more insulin into the blood and lowers the sugar levels. Low points of blood glucose signal the body to eat and forces the liver to secrete stored glucose. A person with diabetes will suffer symptoms of excessive hunger and fatigue, unusual thirst, disproportionate amount of urination, cotton mouth, itchy skin, and blurred vision.

Researchers have found that there are three types of diabetes, type 1, type 2, and gestational diabetes. Type 1 has an onset from childhood, and it can also affect adults. Type 2 diabetes also known as, adult-onset diabetes, occurs when blood sugar levels rise higher than normal and the

body becomes insulin resistant. Type 2 is the most common form of diabetes. Gestational Diabetes affects pregnant women diagnosed with an at-risk pregnancy.

A fasting blood test will determine an average blood sugar level over a few months; this level is called an A1C test. A1Cs below 5.7 is normal or non-diabetic. A1Cs between 5.7 to 6.4 is pre-diabetic, with levels above 6.5 is a person with type two diabetes.

A person with diabetes can check the daily non-fasting glucose with an at home monitor either before a meal or two hours afterward. If the results appear equal to or less than 126 consistently, the possibilities of diabetes are minimal. However, sugar levels exceeding 140 or more on a regular basis is a good sign of adult onset diabetes (type 2).

To manage blood sugar levels, physicians recommend the following:



1. Eating is the crux to healthy sugar levels in the blood. Knowing how certain foods react in your system can make or break how you will feel throughout the day.
  - a. The main item that has the most significant impact on your blood sugar levels is carbohydrates (carbs). Counting carb grams in each meal will stave off blood sugar spikes. Most dieticians will help you determine how many carbs per meal is acceptable to maintain a healthy glucose range, although most professionals lean towards 45 grams.
  - b. Likewise, each meal should include fruits, vegetables, proteins, and fats, which are low in carbohydrates.
  - c. Diabetics should lower and eliminate sweets, sugary beverages, and sweeteners from their diet.
  - d. Learn to read food labels. Healthy foods contain whole grains, soy, and oats. Monounsaturated fats, such as canola, peanut, and olive oil promote heart health.

- i. As stated previously, look at the total number of carbs - not sugar grams, because carbs convert to sugar, and the total carbs may exceed the amount of sugar included in the product.
  - ii. Look out for high fiber foods, which reduce the absorption of simple carbohydrates. If food has more than five grams of fiber, you can subtract up to half of the fiber amount from the total carbohydrate count.
  - iii. Remember that sugar-free foods are not carb free. A sugar-free item has less than .05 grams of sugar. Also, beware of “No sugar added,” products that still may contain a high level of carbohydrates. Likewise, “fat-free” foods may also contain a high amount of carbs.
2. Exercise can also help regulate glucose levels. When muscles are active, they use sugar for energy. Therefore, any exercise plan whether vigorous or light will help suppress glucose levels.
  - a. Before you start an exercise regime, discuss with your doctor the appropriate level of activity.
  - b. Check your blood sugar before and after exercise. If your levels fall below 100, eat a small protein-rich snack.



3. Losing weight can reverse diabetes. Type 2 diabetics have too much fat in the pancreas and the liver. Weight loss will remove that layer of fat and allow the organs to work freely.
4. Choose a good glucose meter. Many insurance plans will pay for a free meter. Others will give you options to choose from with little or no copay. If you can pick your meter, select a device that works best with your type of diabetes. For instance, someone with type 1 diabetes may research meters that embed onto the skin and tracks your levels consistently, while type 2 diabetics will need a meter to check their sugar levels a few times a day.
  - a. Look for a meter that is easy to operate and requires a small blood sample.

- b. Check the cost of medical supplies (i.e., lancets and test strips) for that device.  
There are no universal test supplies. Thus, every meter will require the use of their specific materials, which may vary in costs.
  - c. Research special features, like exercise indicators, and before and after a meal recording.
  - d. Ask your doctor about alternative site monitors. Although finger pricking is optimal, many alternative sites can relieve the pain of pinpricks.
5. Patients using Metformin to regulate their glucose levels must be aware of the type of Radiology test that includes contrasting dyes. When the dyes and Metformin mix (or it's associated brands, e.g., Glucophage), there is a potential health risk. It is crucial that the patient inform all staff members in the Radiology Department of the usage of the drug before accepting the contrast dye.
- a. The mixture of the drug with the dye can cause a condition called Lactic Acidosis which impairs the kidney's function.
  - b. Professionals should advise the patient to **STOP** taking Metformin for 48 hours after the injection of contrast. Patients should seek the advice of a doctor on how to maintain sugar levels during those 48 hours.

Finally, people who have diabetes may find their social activities changed. Friends and family can have a positive impact by helping diabetic sufferers stay on track, choose healthy eating alternatives, and participate in fun activities that help motivate the patient to exercise regularly.



## Resources:

1. What is diabetes? - <https://www.webmd.com/diabetes/guide/diabetes-basics#1>
2. Diabetes management: How lifestyle, daily routine affect blood sugar - <https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/diabetes-management/art-20047963>
3. Carbohydrate Counting - <http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/understanding-carbohydrates/carbohydrate-counting.html>
4. 5 Ways to Lower Your A1C - <https://www.everydayhealth.com/type-2-diabetes/treatment/ways-lower-your-a1c/>
5. Lose Weight, Reverse Type 2 Diabetes: Why it Works - <https://www.webmd.com/diabetes/news/20180917/lose-weight-reverse-type-2-diabetes-why-it-works>
6. Blood Glucose Meter: How to Choose - <https://www.mayoclinic.org/diseases-conditions/diabetes/in-depth/blood-glucose-meter/art-20046335>
7. Pre and Post Contrast Information for Patients Taking Metformin: <http://www.med.umich.edu/1libr/radiology/ContrastMetformin.pdf>

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